

(No Model.)

2 Sheets—Sheet 1.

J. M. WRIGHT.
RAILROAD TRACK JACK.

No. 486,389.

Patented Nov. 15, 1892.

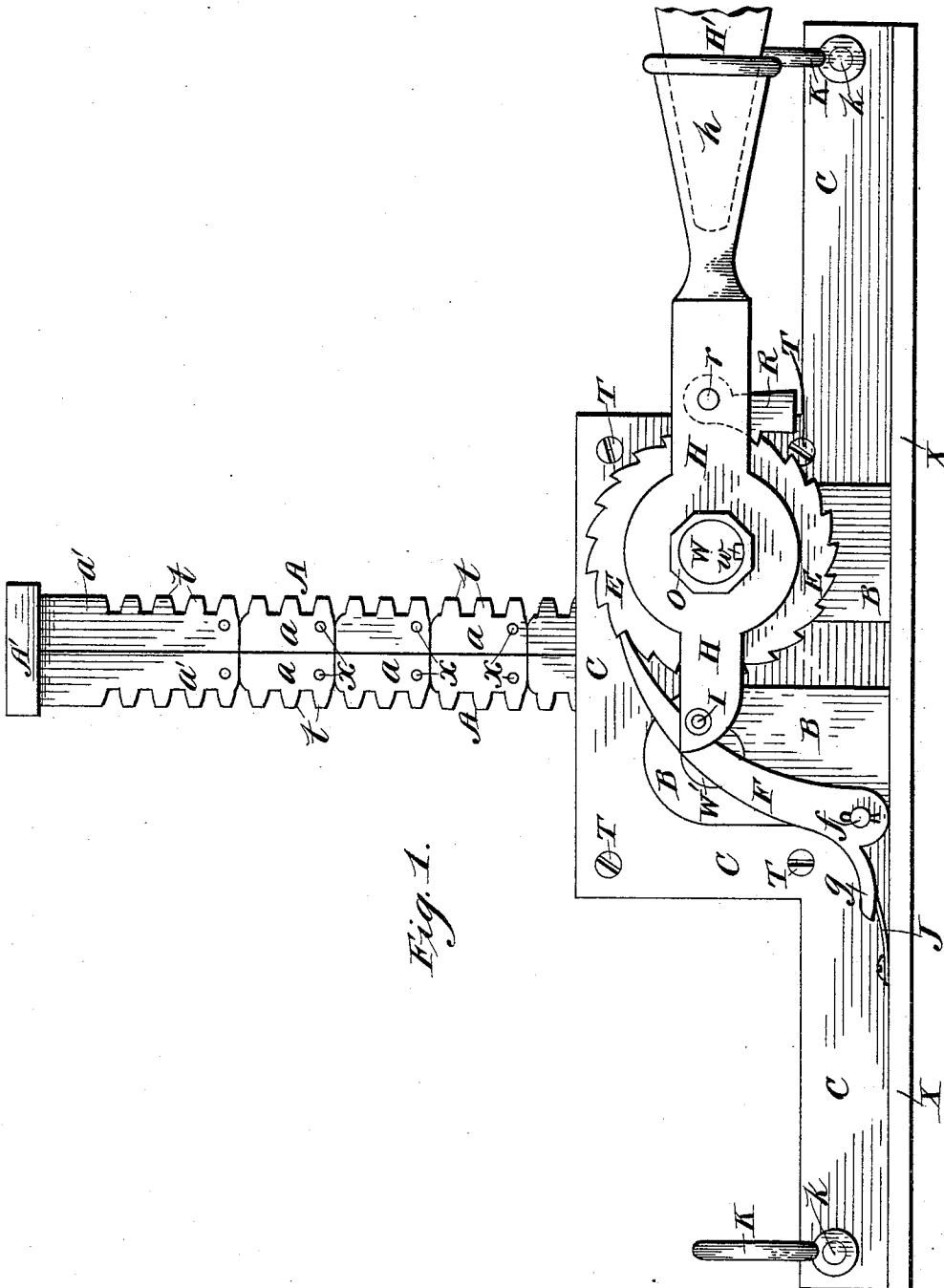


Fig. 1.

Witnesses

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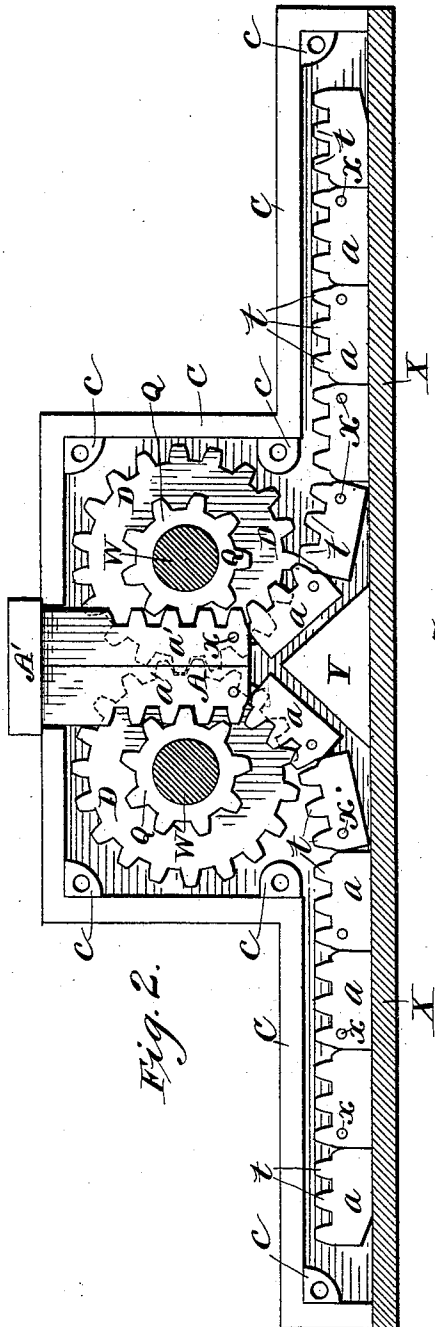


Fig. 2.

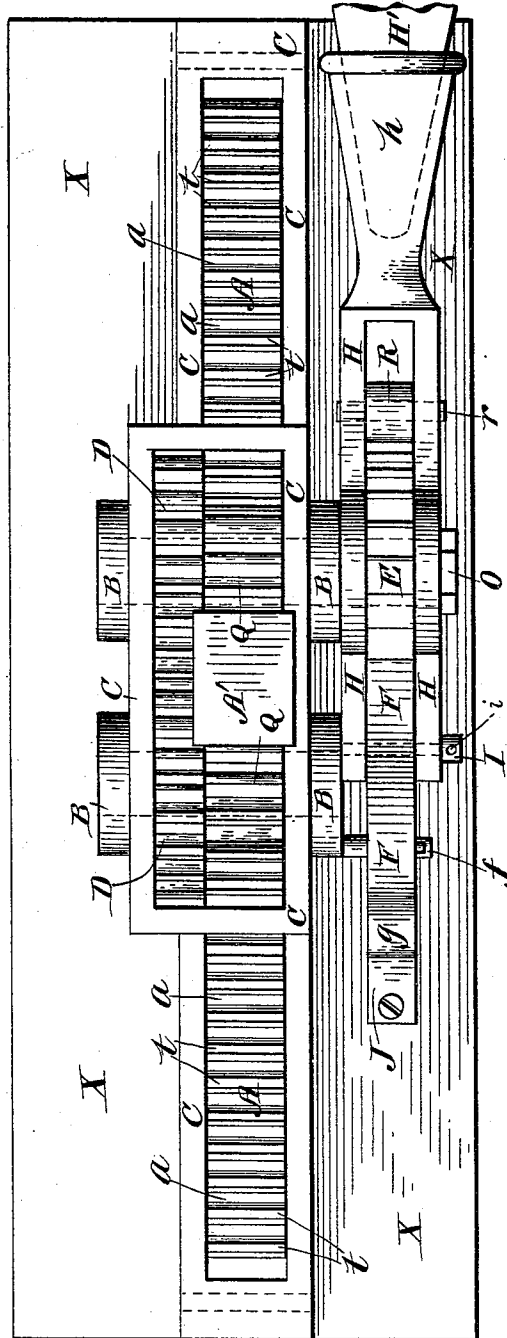


Fig. 3.

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UNITED STATES PATENT OFFICE

JOHN M. WRIGHT, OF FAYETTEVILLE, NORTH CAROLINA.

RAILROAD-TRACK JACK.

SPECIFICATION forming part of Letters Patent No. 486,389, dated November 15, 1892.

Application filed April 22, 1892. Serial No. 430,161. (No model.)

To all whom it may concern:

Be it known that I, JOHN M. WRIGHT, a citizen of the United States, residing at Fayetteville, in the county of Cumberland and State of North Carolina, have invented certain new and useful Improvements in Railroad-Track Jacks; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same.

This invention relates to track-jacks adapted for lifting railroad rails or tracks for the purpose of leveling the track or removing decayed ties and replacing them with new ones, &c.

The object of my invention is to provide a convenient and quickly-operating device which may be placed under the rail, whereby direct force may be applied from below for raising the track and whereby obstructions above the track are avoided. This construction and arrangement of the jack is quite advantageous, since a jack standing above the track would materially interfere with the movements of workmen while carrying timbers or other materials to and fro above the track and would also interfere with the passage of a hand-car or a train.

My jack or track-lifter is very compact and simple in construction and can be conveniently carried from place to place and shoved under the rail between the ties wherever it is desired to raise the track.

The matter constituting my invention will be defined in the claims.

I will now describe my track-jack in detail by reference to the accompanying drawings, in which—

Figure 1 represents a side elevation of the jack. Fig. 2 represents an elevation of the jack with one face or side plate removed for showing the internal working parts. Fig. 3 represents a top plan view showing working parts of the jack, the top plate of the box or case being removed.

Most of the working parts of my track-lifter are inclosed within an iron box or casing C, having a base-plate X, which is preferably made about seven inches wide by twenty inches long, thus forming a good foundation

adapted for use on soft soil. The height of the box C is about five inches. One or both of the side plates of box C may be made removable for giving access to the interior working parts, and I provide the box with the interior lugs *c*, Fig. 2, formed with screw-threaded openings for receiving the lag-screws T for securing one side of the box in position. The side plates of box C have cast with or otherwise secured to them the bosses B on each side for supporting the mandrels or shafts W W'. The gear-wheels D are secured upon shafts W W' in proper position and mesh with each other, as shown in Fig. 2, so that when one shaft is turned by means of a ratchet wheel and lever the other will be turned through the medium of the gear-wheels. Instead of these two gear-wheels, however, I may use a ratchet and lever on each of the shafts W W' upon opposite sides of the box, and thereby operate both shafts for raising the linked lifting-bar. Upon the shafts W W', I also secure the pinions Q, adapted to engage with the teeth of the links *a*, which form the lifting-bar A. In the bottom of the box at its central portion I secure a triangular separator V for guiding the links of the lifting-bar as they are passed either up or down, as shown in Fig. 2.

The upper and outer links *a'* of the lifting-bar A are preferably made longer than the ordinary links and are arranged back to back or with their backs together and connected at their upper ends to the rectangular head A'. The links *a* of the lifting-bar are formed with tongues and slots at their ends fitting one into the other and are connected together by pins *x*. One edge of the links are formed with teeth *t*, adapted to be engaged by the teeth of the pinions Q, and the opposite edges of the links *a* are made straight and flat, so that they may fit closely together when the bar is raised into a vertical position, as shown in Fig. 1. The adjacent ends of the links *a* are beveled at the edges which are provided with the teeth *t*, whereby such links may be bent or turned one toward the other at the toothed edge, as shown in Fig. 2, thus permitting the two halves of the bar to be raised from a horizontal to a vertical position, or vice versa.

While the links may be bent or turned one toward the other at the toothed edge, they cannot be turned backward, and therefore when the two sets of links or two halves of the bar are raised into a vertical position one half supports the other, so as to form a rigid vertical bar, as seen in Fig. 1. The top plate or box C is provided centrally with an opening for the passage of the two sets of links constituting the bar A. To the shaft W, which projects at the front side of the box, there is secured the ratchet-wheel E by means of a key *w*, and the ratchet-lever H is also fitted to work loosely on shaft W, and is secured thereon by the nut O.

The ratchet-lever H projects at its inner end beyond shaft W and is provided with a tripping-pin I for forcing pawl F out of engagement with the ratchet-teeth. The lever H is preferably bifurcated at its end, as shown in Fig. 3, and has pivotally connected to it the dog or clutch R by means of pin *r*, said dog being placed within the slot of the lever and arranged to engage with the teeth of ratchet-wheel E, as shown in Fig. 1. The ratchet-lever H is provided with a socket *h*, in which is inserted a handle H'. The pawl F is connected by a pivot-pin *f* to the side of the case, and is provided with a toe *g*, which bears upon the spring J, screwed to the base-plate X. The spring J serves to press the pawl into engagement with the ratchet-wheel E, as shown in Fig. 1. The ends of box C are provided with pivoted handles K, connected to the box by pins *k*, by means of which the jack may be readily carried from place to place.

The jack having been constructed as above described and shown in the drawings, it is ready for use, and in order to use the same it is placed directly under the rail. The lever is now operated and the track will be raised about two inches with each full stroke thereof. The track is thus quickly and easily raised to the desired position and there is no tendency to pull it out of line, since the strain or thrust is directly upward. After having completed the work the jack can be quickly tripped by means of pin I in the end of lever H striking the pawl F and by drawing back the dog R. The ratchet-wheel and gearing now being released, the linked bar and its head A' now quickly slide down by their own weight, the two sets of links passing into the opposite ends of the box, as shown in Fig. 2, without having to be worked down by use of a lever.

The tripping-pin I is perforated at *i*, Fig. 3, and may be connected by a small chain to the side of the box when not inserted in lever H.

Having described my invention, what I

claim, and desire to secure by Letters Patent, is—

1. In a track-jack, a lifting-bar composed of two linked flexible parts connected to a head and each of which parts is adapted to support the other in a vertical position, in combination with a case and mechanism for raising both of the parts together, substantially as described.

2. A box or case having a central opening at the top and provided with two shafts and pinions suitably spaced apart, in combination with a two-part linked and toothed lifting-bar, the parts of which are connected to a head and are arranged between and engage with said pinions, substantially as described.

3. The combination, with the two-part linked lifting-bar having teeth at the edge and arranged in a case and operating mechanism, of the guide having inclined faces for separating the two parts of the linked bar, substantially as described.

4. In a track-raising jack, a two-part linked lifting-bar, each part being composed of links having teeth at one edge and adapted to be flexed one toward the other at the toothed edge only, said parts being connected by links lying back to back to a rigid head, in combination with a box or case and suitable operating mechanism.

5. In a track-jack, a lifting-bar composed of two flexible parts, each part being formed of toothed links connected to a head and applied back to back, the links having joints which permit them to be flexed one toward the other outward, but prevent them from being flexed backward, whereby each half or part of the bar supports the other when raised into a vertical position, in combination with a case and a pinion engaging with the toothed links, substantially as described.

6. In a jack, a lifting-bar composed of two sets of pivotally-connected links having teeth at one edge and adapted to be flexed one toward the other at the toothed edge, said sets of links being connected at one end, in combination with a case and mechanism for raising the bar, substantially as described.

7. A box or case provided with two transverse shafts carrying two gear-wheels meshing with each other and two pinions suitably spaced apart, in combination with a two-part linked and toothed lifting-bar and operating mechanism, substantially as described.

In testimony whereof I affix my signature in presence of two witnesses.

JOHN M. WRIGHT.

Witnesses:

I. B. UNDERWOOD,
H. J. MARSH.