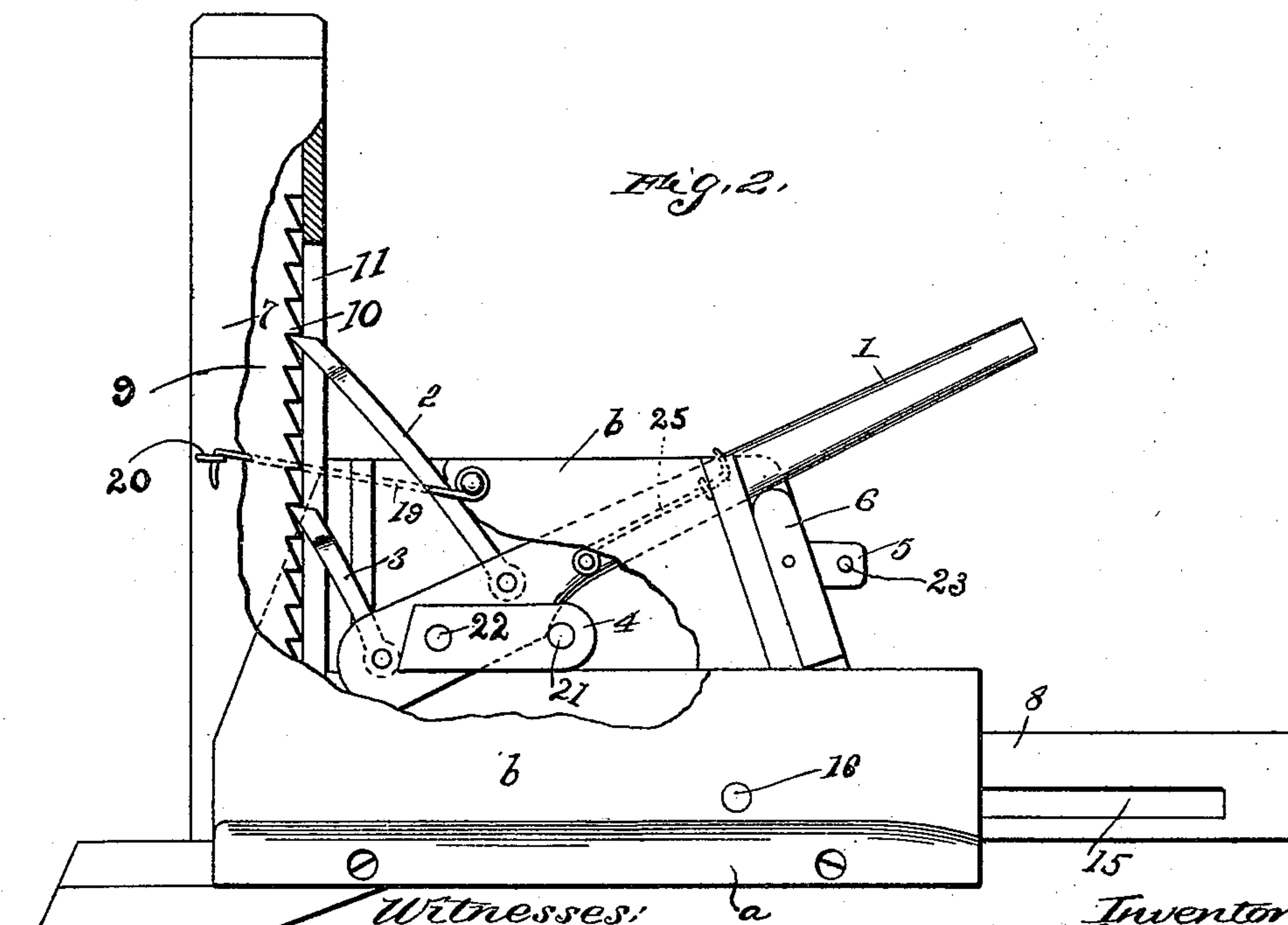
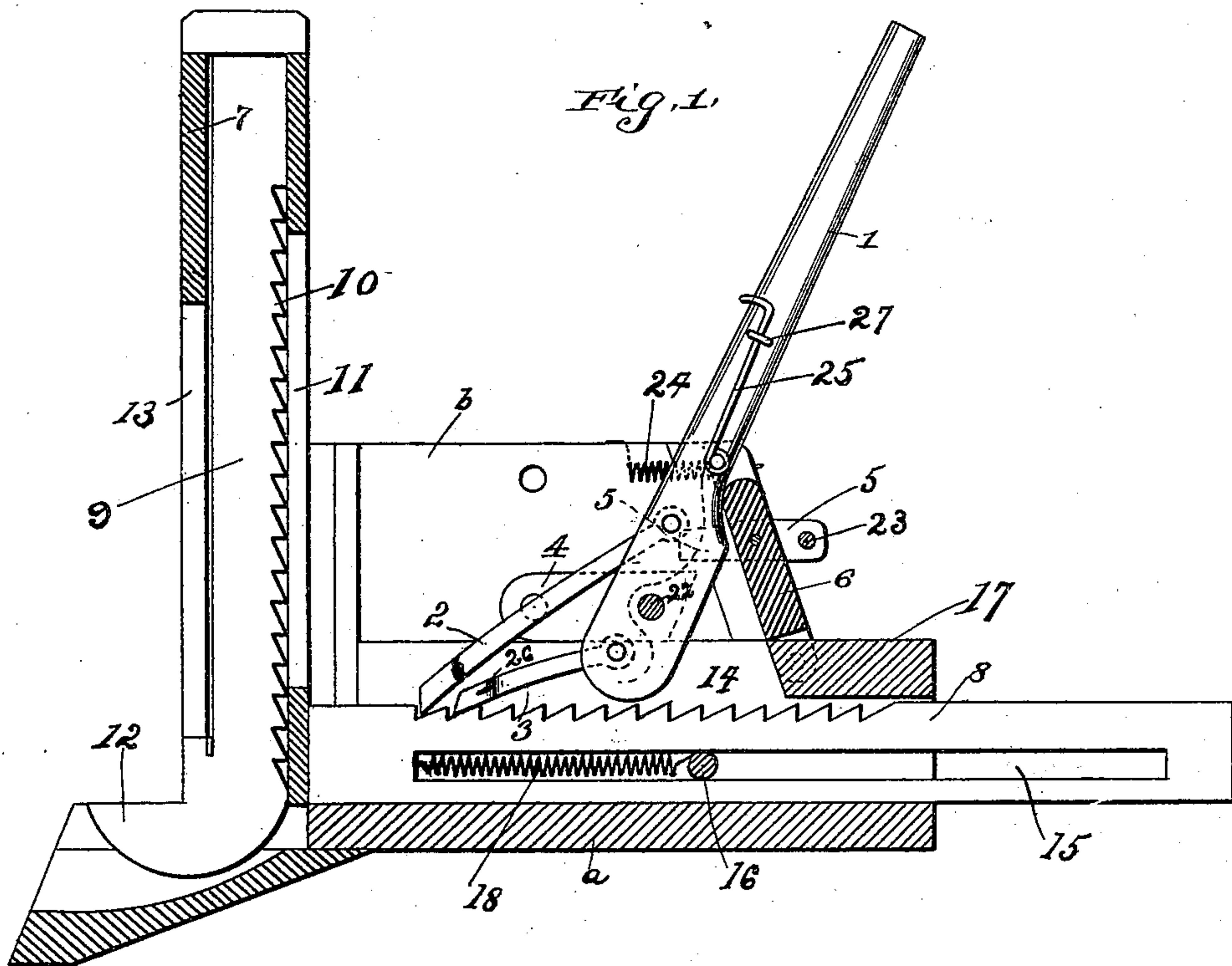


H. HALE & S. J. BARTLETT.
RAILROAD TRACK JACK.

(Application filed Sept. 25, 1900.)

(No Model.)

2 Sheets—Sheet I.



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No. 690,423.

Patented Jan. 7, 1902.

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2 Sheets—Sheet 2.

Fig. 3.

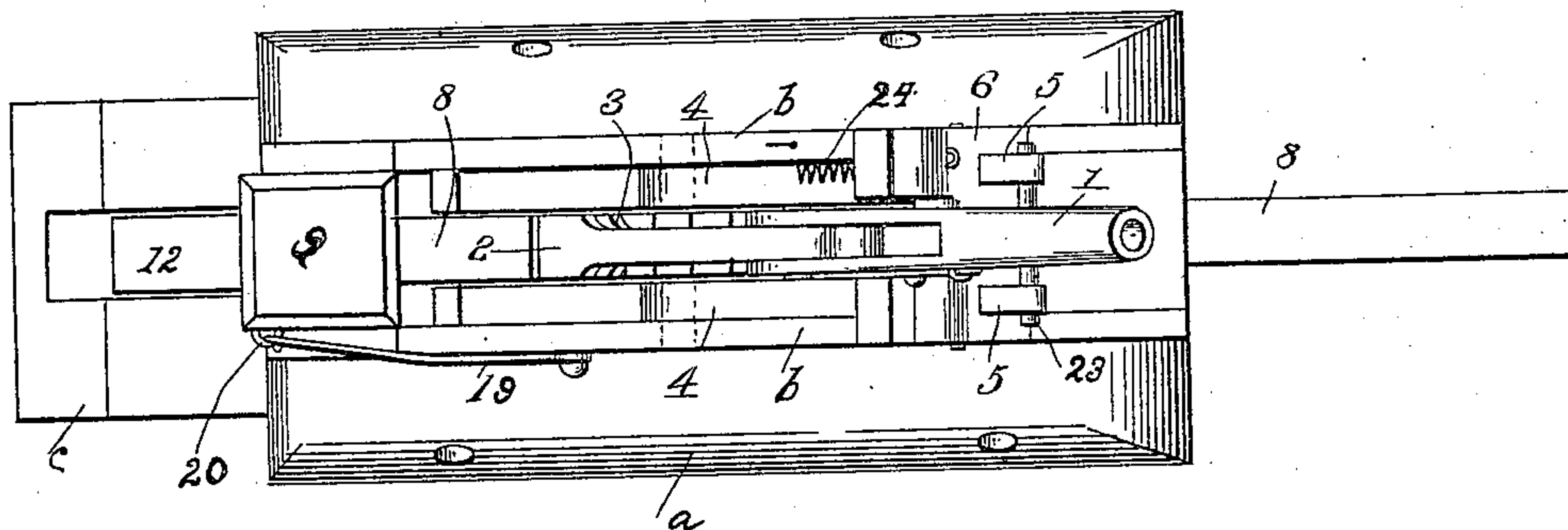
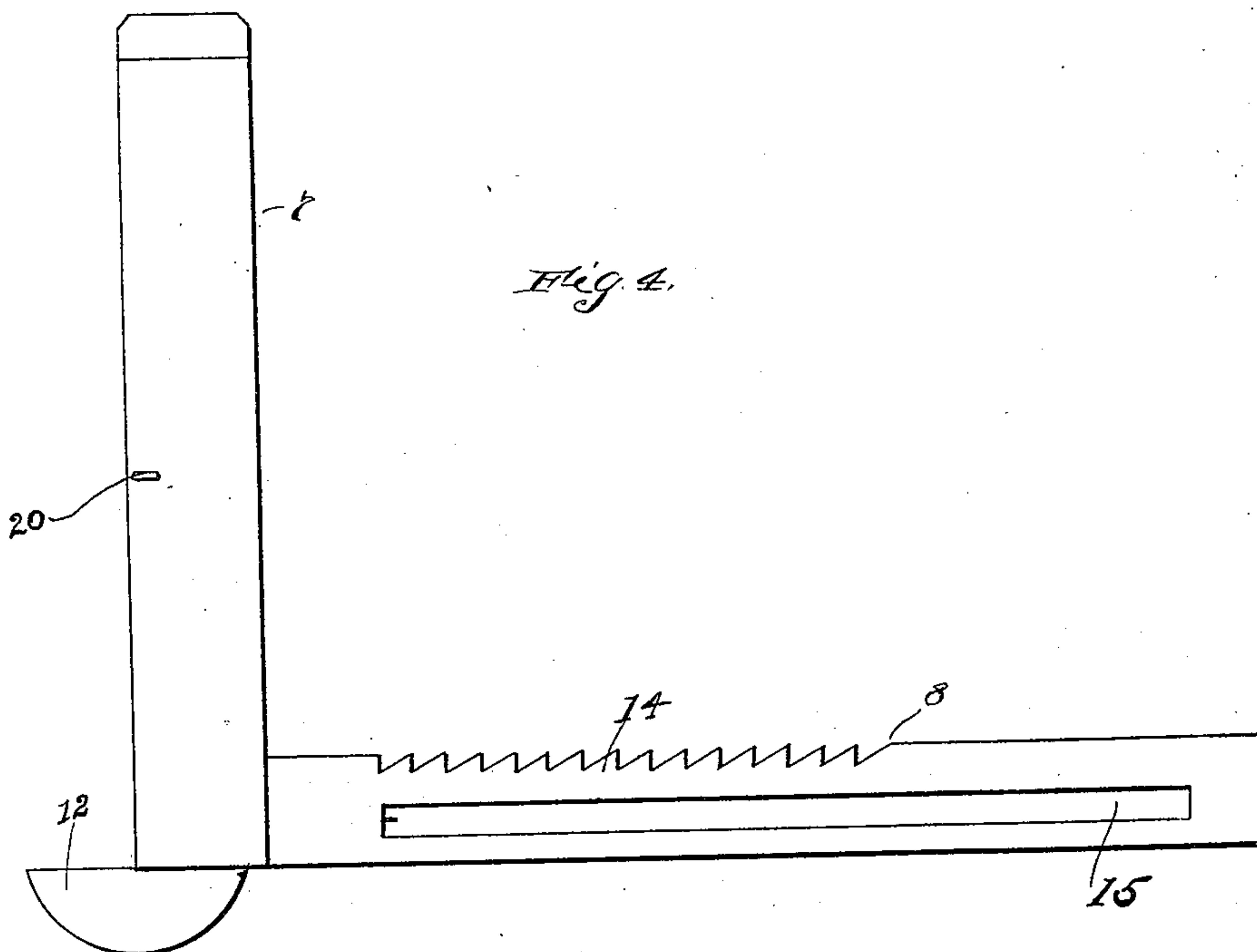


Fig. 4.



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UNITED STATES PATENT OFFICE.

HENRY HALE, OF ASTORIA; AND SYLVESTER J. BARTLETT, OF BEARDSTOWN, ILLINOIS.

RAILROAD-TRACK JACK.

SPECIFICATION forming part of Letters Patent No. 690,423, dated January 7, 1902.

Application filed September 25, 1900. Serial No. 31,045. (No model.)

To all whom it may concern:

Be it known that we, HENRY HALE, residing at Astoria, county of Fulton, and SYLVESTER J. BARTLETT, residing at Beardstown, county of Cass, State of Illinois, citizens of the United States, have invented a new and useful Improvement in Railroad-Track Jacks, of which the following is a specification.

10 This invention relates to jacks designed chiefly for leveling and straightening railroad-tracks, since it combines in one structure elevating and lateral rail-shifting means, both of which are operable by means of a single lever fulcrumed to a pivoted support, which admits of the position of the lever being changed as required for actuation of either the elevating or the lateral rail-shifting means.

20 For a full description of the invention and the merits thereof and also to acquire a knowledge of the details of construction of the means for effecting the result reference is to be had to the following description and drawings hereto attached.

25 While the essential and characteristic features of the invention are susceptible of modification, still the preferred embodiment of the invention is illustrated in the accompanying drawings, in which—

30 Figure 1 is a vertical longitudinal section of a jack embodying the invention, the lever being shown in position for effecting a forward movement of the vertical guide and lifting-bar. Fig. 2 is a side view, parts being broken away, the lever being in position to effect elevation of the lifting-bar. Fig. 3 is a top plan view. Fig. 4 is a side view of the vertical guide and attached rack-bar.

40 Corresponding and like parts are referred to in the following description and indicated in all the views of the drawings by the same reference characters.

45 The frame to which the operating parts are attached comprises a base *a* and vertical parallel sides *b* and is provided at its front end with a pendent lug *c* to fix the position of the jack when in place, said lug becoming embedded in the ground and preventing movement of the jack when exerting force to shift the rail laterally to aline the track. The guide

7 is located at the front end of the frame and is movable toward and from the said frame in order to effect a lateral shifting of the track. This guide is tubular and receives a lifting-bar 55 9, having teeth 10 at its rear side for coöperation with pawls 2 and 3, whereby the said bar is elevated when it is required to lift the track or other object. The rear side of the guide 7 has a vertical slot 11, through which the pawls 60 2 and 3 pass to reach and engage with the teeth 10. A step 12 is provided at the lower end of the lifting-bar 9 and is adapted to engage under the track or other object to be elevated. The front side of the guide has a vertical slot 13, in which the step 12 is free to move as the bar 9 is raised or lowered. The rack-bar 8 projects rearwardly and horizontally from the guide 7 and is toothed upon its top edge, as shown at 14, for coöperation with 65 the pawls 2 and 3 when moving the guide 7 forward. This rack-bar 8 is guided in its horizontal movements by the lower portion of the frame in which it is mounted for longitudinal movement. A longitudinal slot 15 is provided 70 in the rack-bar 8 and receives a pin 16, extending across the space formed between the sides *b* and having its end portions fitted into openings formed in the said sides. This pin 16 prevents vertical movement of the rear end 80 of the rack-bar after the rear extremity thereof has cleared the overhanging portion 17 at the rear end of the frame. A retractile spring 18 is located in the front portion of the longitudinal slot 15 and is secured at one end to 85 the pin 16 and at its opposite end to the rack-bar 8, adjacent the forward closed end of the slot 15. This spring 18 is expanded when the rack-bar 8 and guide 7 are moved forward, and upon releasing the rack-bar 8 from 90 the actuating means the spring 18, regaining itself, returns the rack-bar 8 and guide 7 to a normal position. The position of the guide 7 is fixed by restraining means when it is not required to move the same forward, and, as 95 shown, these means consist of a hook 19, pivoted at one end to a side of the frame, and an eye 20, applied to the side of the guide 7 to receive the bent end of the hook, as indicated most clearly in Fig. 2. 100

The operating-lever 1 is fulcrumed near its lower end to a pivoted support 4, consisting

of companion bars spaced apart and connected to the sides of the frame by a pivot-pin 21. The lever 1 is fitted between the bars or members of the pivoted support and mounted upon a pivot-pin 22. The pawls 2 and 3 are of different lengths and are pivoted to the lever 1 upon opposite sides of its fulcrum 22, whereby they move forward in alternation, one advancing simultaneously with the backward movement of the other. These pawls 2 and 3 are adapted to cooperate with the teeth of either the lifting-bar 9 or the rack-bar 8, according to the position of the operating-lever, as indicated most clearly in Figs. 1 and 2. When the lever 1 occupies a position in the rear of the pivot-pin 21, the pawls 2 and 3 are in engagement with the teeth 14 of the rack-bar 8, and upon oscillating the lever the rack-bar 8 and guide 7 are moved forward. When the lever 1 occupies a position in front of the pivot-pin 21, as shown in Fig. 2, the pawls 2 and 3 engage with the teeth 10 of the lifting-bar 9, and upon vibrating the said lever the lifting-bar is raised. When the operating-lever 1 and pivoted support 4 occupy the position shown in Fig. 1, operation of the said lever to effect a forward movement of the guide 7 tends to lift the free end of the pivoted support 4 and the lever 1, since the force applied to the rack-bar 8 exerts an upward pressure upon the pawls 2 and 3. To prevent vertical movement of the lever, the restraining device now to be described has been devised, and consists of a pivoted plate or member 6 and a stop 5, the latter consisting of short bars fitted into openings in the part 6 and having their inner ends arranged to extend over the free ends of the bars or members comprising the pivoted support 4. The outer ends of the bars comprising the stop are connected by a pin or rod 23, which serves as a handle to be grasped when it is required to withdraw the stop 5 from the path of the pivoted support 4 to admit of free movement of the lever when it is required to shift from one position to the other. A spring 24 connects the upper end of the pivoted member 6 with a side of the frame and normally holds the stop 5 in the path of the pivoted support 4. The pivoted support may be released from the stop 5 and the latter turned upon its pivot-pin 21 by bearing down upon the upper end of the lever 1 after it has been brought into engagement with the upper end of the part 6, as shown most clearly in Fig. 1. The free end of the pivoted support 4 is inclined or beveled to admit of the inner end of the stop 5 riding thereon when shifting the support from the position shown in Fig. 2 to the position indicated in Fig. 1.

If it be required to shift a track laterally and at the same time raise it, the jack, after being placed in position with a rail resting upon the step 12, is operated to lift the rail or track to the required height, after which the lifting-bar 9 is fixed with reference to the

guide 7 in any manner, such as interposing a pin or equivalent article between a tooth of the bar 9 and a convenient portion of the guide 7. The position of the lifting-bar being fixed, the lever 1 is reversed or shifted from the position shown in Fig. 2 to that indicated in Fig. 1 and is operated to move the guide 7 forward and at the same time shifting the track resting upon the step 12. When the jack is used for lifting purposes solely, the guide 7 is made fast to the frame in any manner, preferably by means 19 and 20. The pawls 2 and 3 are held out of engagement with the teeth of the bars 8 and 9, when desired, by means of a hook 25, pivoted to the lever 1, and an eye 26, applied to the pawl 3. When not required for use, the hook 25 is held out of the way by a catch 27.

Having thus described the invention, what is claimed as new is—

1. A jack comprising a frame, a guide movable toward and from the frame, a lifting-bar carried by the said guide, a longitudinally-movable rack-bar carrying the aforesaid guide, and an operating-lever provided with means for actuation of either the aforementioned lifting-bar or rack-bar according as the object is to be elevated or moved from the jack, substantially as set forth.

2. In a jack, a guide, a rack-bar projected horizontally from the guide, a lifting-bar mounted for vertical movement with reference to said guide, an operating-lever provided with means for cooperation with either the lifting-bar or rack-bar, and a pivoted support having the operating-lever fulcrumed thereto to effect a shifting thereof, substantially as set forth.

3. In a jack, a vertical guide, a rack-bar projected horizontally therefrom, a vertically-movable lifting-bar carried by the said guide, a pivoted support, an operating-lever fulcrumed to the said support and provided with means for cooperation with the lifting-bar and the rack-bar, and a stop for holding the pivoted support in one of its positions against the stress imposed thereon by actuation of the lever when in operation, substantially as specified.

4. In a jack, a vertical guide, a rack-bar extended horizontally therefrom, a lifting-bar movable vertically with reference to the guide and carried thereby, an operating-lever provided with means for actuation of either the lifting-bar or rack-bar, and a retractile spring connected with the rack-bar for returning it and the vertical guide to a normal position, substantially as set forth.

5. In a jack, a vertical guide, a lifting-bar movable vertically with reference thereto, a rack-bar extended horizontally of the said guide and having a longitudinal slot, an operating-lever provided with means for actuation of the lifting-bar and the rack-bar, a pin extended through the longitudinal slot of the rack-bar, and a retractile spring located in

the said slot and connected at one end to the rack-bar and at its opposite end to the said pin, substantially as specified.

5 6. In a jack, the combination with the frame, a rack-bar mounted for longitudinal movement with reference to the frame and adapted to engage at its outer end with the object to be moved, a pivoted support, an operating-lever fulcrumed to the said support
10 and provided with means for coöperation of the rack-bar, and a pivoted element provided with a stop to engage with the aforesaid pivoted support and hold it in place, substantially as set forth.

15 7. In combination, a frame, a guide movable toward and from the frame, a rack-bar extended horizontally from the guide and slid-

ably mounted in said frame, a lifting-bar movable vertically with reference to the guide, a pivoted support comprising spaced elements, 20 an operating-lever fulcrumed between the spaced elements of the pivoted support and provided with a pair of pawls for coöperation with the lifting-bar and the said rack-bar, and a restraining device comprising a pivoted 25 member and spaced stop members to engage with the elements of the aforementioned pivoted support to hold the latter in one of its positions, substantially as set forth.

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SYLVESTER J. BARTLETT.

In presence of—

R. F. McLAREN,

M. W. OHERN.