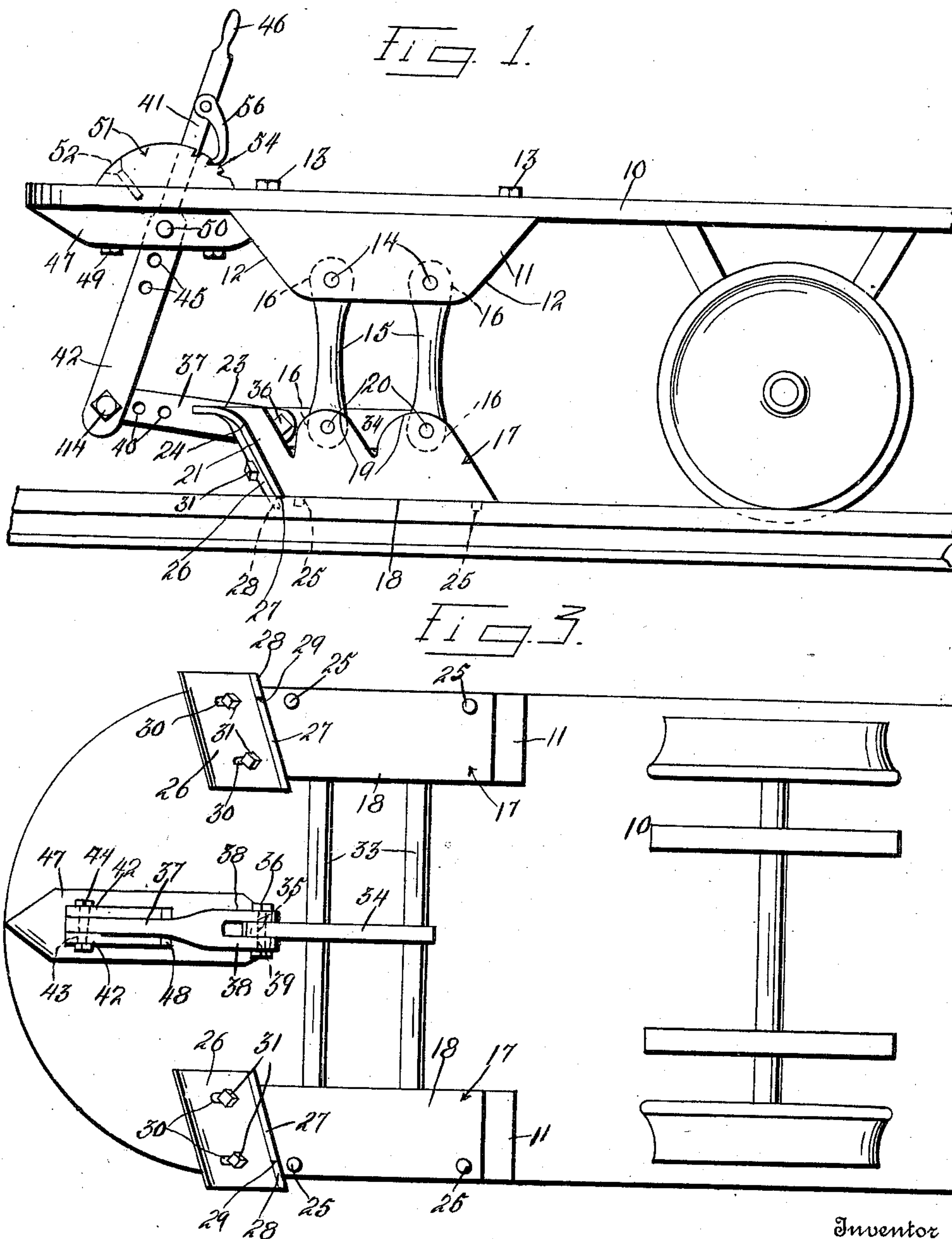


M. WELLS.
RAIL SCRAPER.
APPLICATION FILED JUNE 14, 1910.

994,964.

Patented June 13, 1911.

3 SHEETS—SHEET 1.



Witnesses
L. E. Strobel

Francis Boyle

Inventor
MOSES WELLS.

By *Charles Chandler*

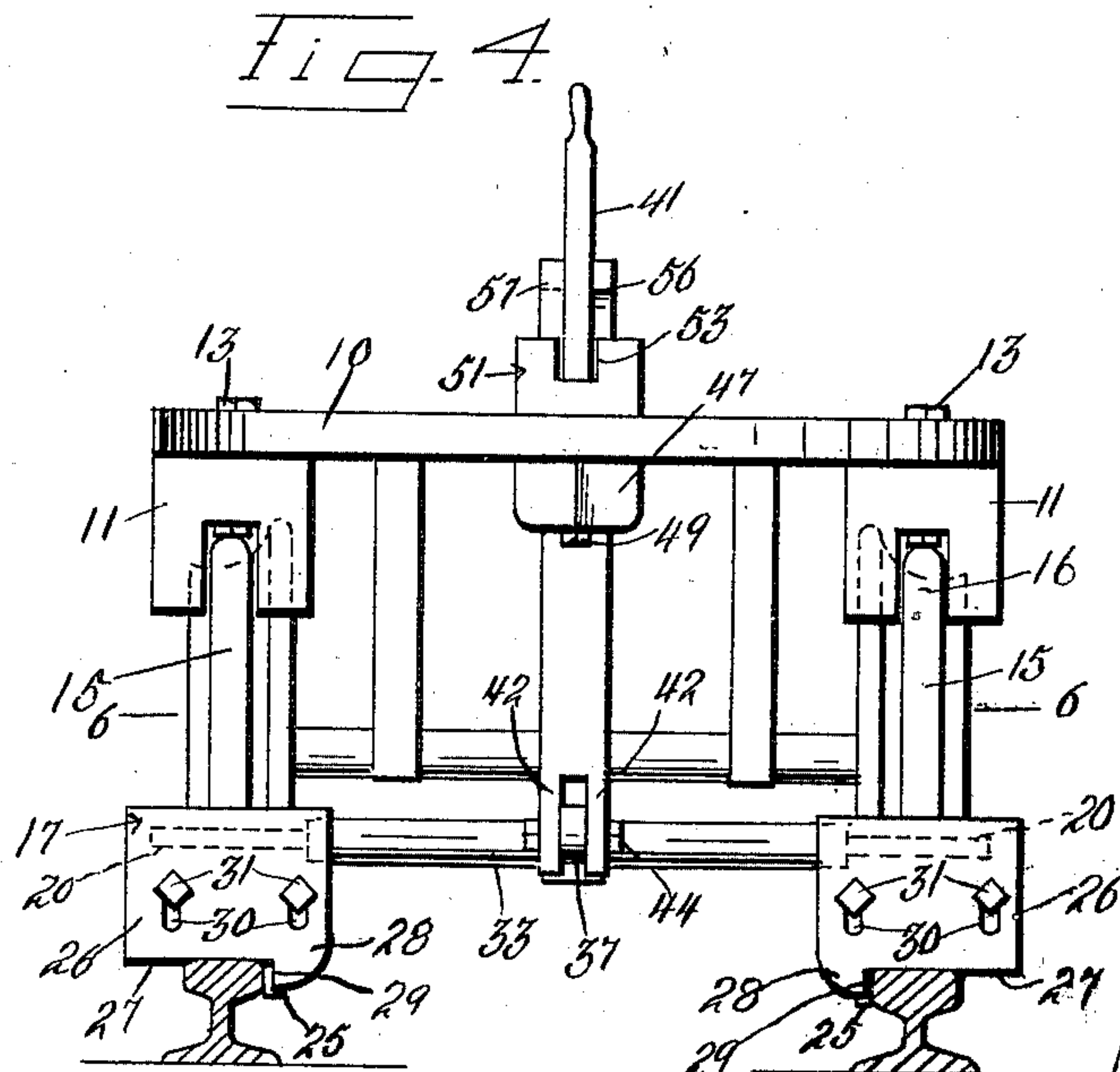
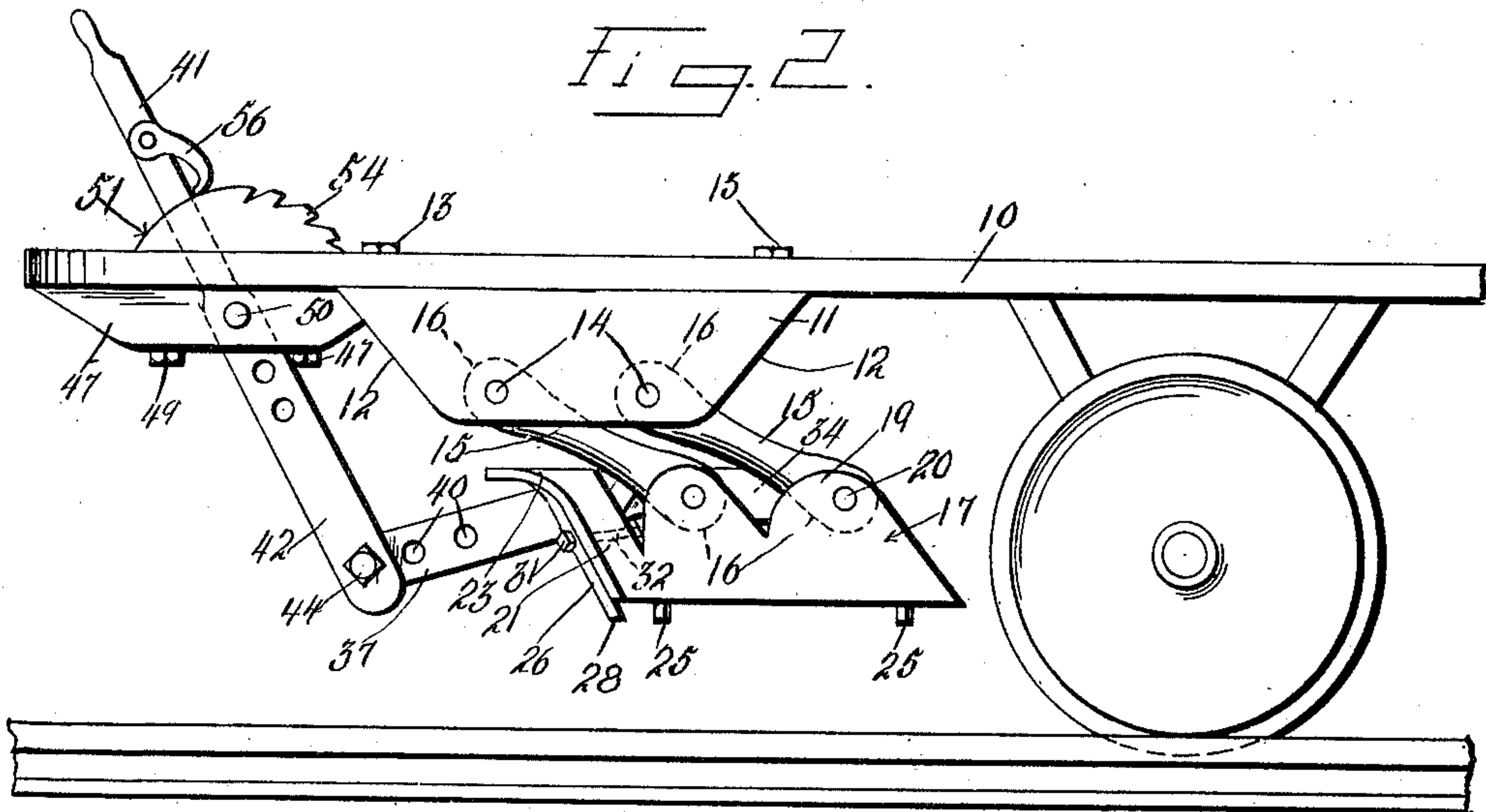
Attorneys

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3 SHEETS—SHEET 2.



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3 SHEETS—SHEET 3.

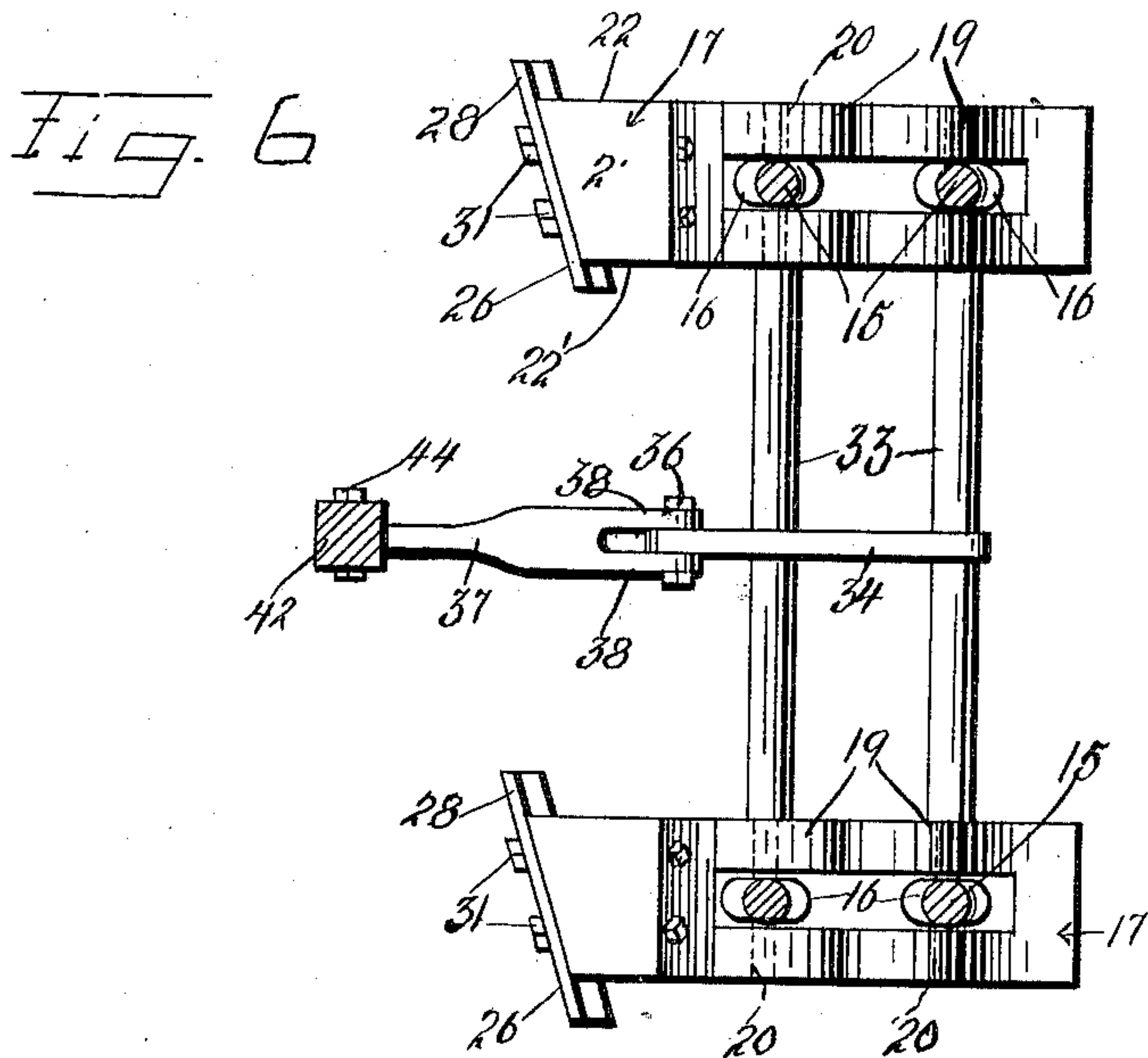


Fig. 5.

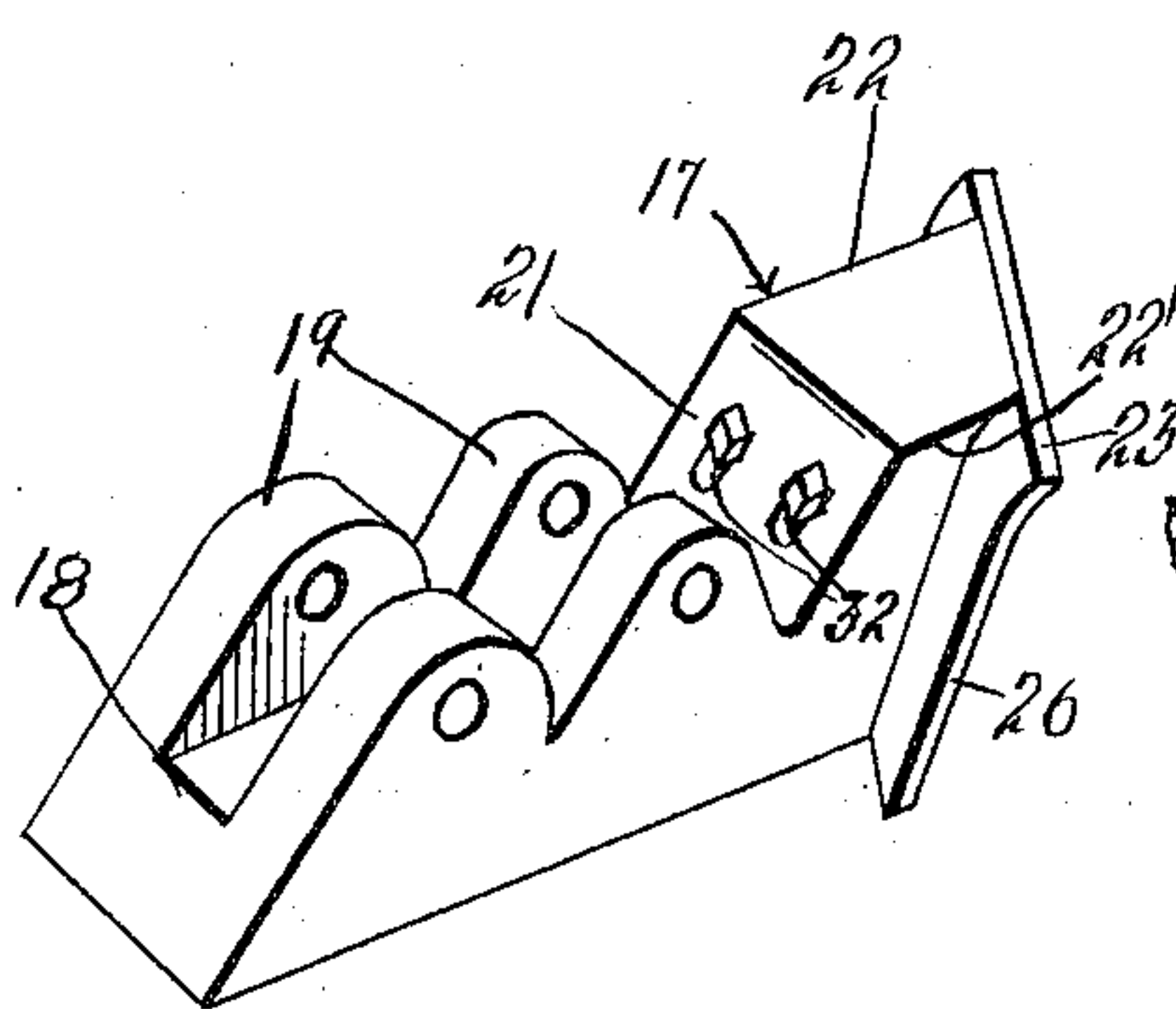
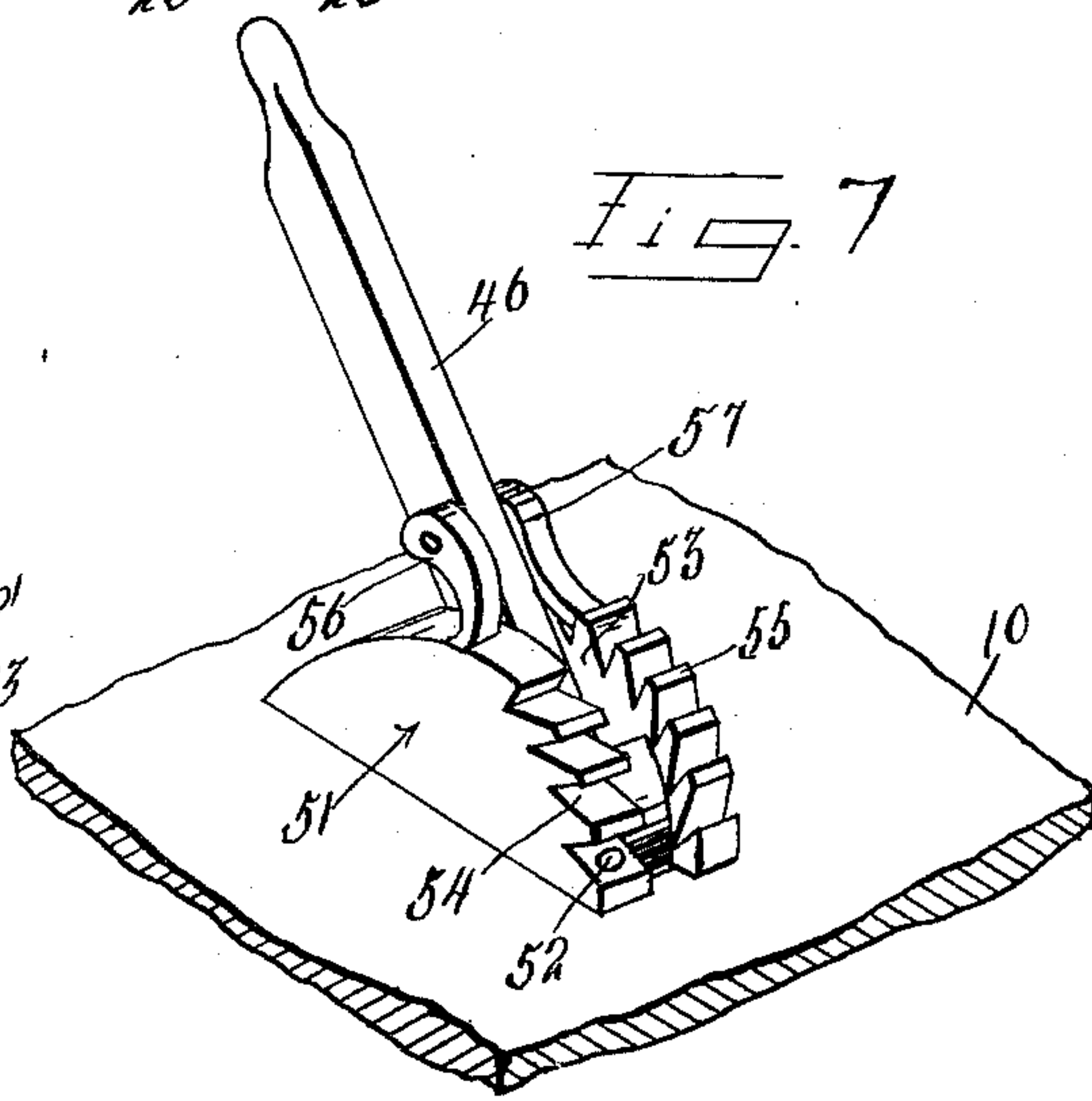


Fig. 7



Witnesses

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UNITED STATES PATENT OFFICE.

MOSES WELLS, OF EAST TEMPLETON, MASSACHUSETTS.

RAIL-SCRAPER.

994,964.

Specification of Letters Patent. Patented June 13, 1911.

Application filed June 14, 1910. Serial No. 566,877.

To all whom it may concern:

Be it known that I, MOSES WELLS, a citizen of the United States, residing at East Templeton, in the county of Worcester, State of Massachusetts, have invented certain new and useful Improvements in Rail-Scrapers; 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 cleaners and has for an object to provide a novel form of scraper blade that may be adjusted so as to scrape ice and sleet from the track.

A further object is to provide a shoe which may be elevated considerably above the track when not required and which may further be disposed at any desired height above the tracks when in operative position.

A further object is to provide novel controlling means for the blades, this controlling means being within easy reach of the motorman.

With these and other objects in view, the invention consists of the novel details of construction and combination of parts hereinafter fully described and claimed, it being understood that various modifications may be made in the minor details of construction within the scope of the appended claims.

In the accompanying drawings forming part of this specification:—Figure 1 is a side elevation of a portion of a vestibule floor equipped with my improved scraper, showing the latter in operative position. Fig. 2 is a side elevation of the floor and scraper showing the latter in released position. Fig. 3 is a bottom plan view of the scraper applied. Fig. 4 is a front elevation of the scraper. Fig. 5 is a perspective detail view of one of the shoes. Fig. 6 is a longitudinal sectional view taken on the line 6—6, Fig. 4. Fig. 7 is a fragmentary view showing the shoe controlling mechanism.

The reference character 10 designates the front vestibule floor of a car. Arranged upon the bottom face of the floor is a pair of spaced hangers 11, each hanger preferably being formed from a channel bar the end edges 12 of which slope oppositely from the channeled lower face of the hanger to the base of the hanger, the latter being bolted as shown at 13 or otherwise rigidly secured to the under face of the car floor,

the outer side of each hanger when in this position being flush with the longitudinal edge of the car floor. Fixed in the side walls of each hanger are pins 14 which span the channel in the hanger and are spaced from the bottom wall of the channel.

A pair of links 15 are provided at their opposite ends with eyes 16, one eye of each link loosely engaging one of the pins 14. The shoe 17 carried by each pair of links is formed from metal, wood or other suitable material and comprises a tread portion 18 from the top face of which rise lugs 19, these lugs being arranged in pairs and being provided with alined openings in which are fixed the extremities of pins 20, these pins loosely engaging the lower eyes of the links. The leading end of the shoe is provided with an upwardly inclined extension 21, this extension being wedge shaped, that is, it gradually decreases in thickness from the outer face 22 of the shoe to the inner face 22' of the shoe, as shown, this form of extension providing a leading flat face for the shoe, which, when the shoe bears upon the rail, inclines obliquely across the rail.

Embedded in the tread surface of each shoe is a pair of spaced pins 25, these pins being disposed at approximately equal distances from the inner edge of the tread surface and being adapted to engage the inner side of the rail head as shown.

A curved metal scraper blade 26 is arranged upon the leading face of the shoe, this blade being of greater width than the shoe so that its margins extend beyond the sides of the shoe and being slightly curved in outline so as to conform snugly to the contour of the leading face of the shoe. The blade at its scraping edge 27 is provided with an extension 28, this extension forming an abrupt shoulder 29 at its meeting with the major portion of the blade cutting edge, this shoulder being in axial alinement with the pins 25, which latter, as is evident, engage the sides of the rail head and prevent abutting contact of the shoulder with the side of the rail head, this construction serving to prevent the extension from catching in the rail joints while at the same time permitting the extension to remove the snow from the inner side of the rail head.

Formed in each blade is a pair of longitudinal slots 30, bolts 31 being passed through these slots and through correspond-

ing openings 32 formed in the leading portion of the shoe. It is evident that when the sleet is on the traffic rails the blade, through the instrumentality of these bolts working in the slots, may be adjusted so as to project below the tread surface of the shoe and effectively remove the sleet from the rails. Connecting the shoes is a pair of spaced rods 33, these rods being preferably formed integral at their extremities with the pins 20 that secure the shoes to the links 15. A bar 34 is provided intermediate its ends with suitable openings to snugly receive the rods 33 and is provided at its forward end with an opening 35 through which a pivot bolt 36 is engaged.

A connecting link 37 is provided at one end with a pair of spaced ears 38 which loosely fit the sides of the bar 34 and are provided with openings 39 to receive the pivot bolt. The forward end of the connecting link is provided with a series of circular openings 40. An operating lever 41 is provided at its lower end with a pair of spaced ears 42 through which openings 43 are formed that may be made to register with any particular opening in the connecting link and through which registering openings a pivot bolt 44 is passed. The intermediate portion of the handle lever is provided with a series of openings 45 and extends upwardly through a suitable opening formed in the car floor, the extreme upper end of the handle lever terminating in a grip 46 which is preferably arranged adjacent to and just below the brake wheel so as to be within convenient reach of the motorman.

Mounted upon the bottom face of the car floor is a bracket 47, this bracket being provided centrally with an opening 48 which registers with the opening in the car floor and receives the intermediate portion of the handle lever. The bracket is bolted as shown at 49 or otherwise rigidly secured to the car floor. A pivot bolt 50 is passed transversely through the sides of the bracket and through one of the openings in the handle lever and serves to pivotally mount the handle lever. It is now clear that when the handle lever is rocked upon the pivot bolt through the instrumentality of the connecting link 37 and bar 34, the shoes are moved upwardly toward the car floor or downwardly toward the rail as the case may be. It might here be stated that the series of openings in the handle lever and connecting link are to permit of the device being adjusted to various sized cars.

For locking the shoes in any desired position, a notched segment member 51 is provided, this segment being preferably formed from a semi-cylindrical block of metal, the flat face of this segment bearing upon the top face of the car floor, bolts or similar connectors 52 being passed through the

curved upper face of the segment, passed thence through the car floor to rigidly secure the segment in position. The segment is provided centrally with a slot 53 which registers with an opening in the car floor and permits of the free pivotal movement of the handle lever. Arranged upon the arcuate face of the segment is a plurality of rearwardly pointing teeth 54, these teeth extending from one side of the segment to approximately one-half the distance across the curved face thereof. Arranged upon the remaining half of the curved face of the segment is a plurality of forwardly pointing teeth 55.

Pivoted upon one side of the handle lever is a dog 56 which terminates at its extremity in a hook, this hook engaging the rearwardly projecting teeth of the segment and locking the handle lever against being rocked forwardly, which rocking movement of the handle lever elevates the shoes from the track. It is clear by engaging this dog in the lowest tooth of the series that the shoes may be brought to bear directly upon the tread surface of the traffic rails and by engaging the dog in the highest tooth of the series, the shoes may be brought adjacent to the bottom face of the car floor.

Pivoted upon the opposite side of the handle lever is a dog 57, this dog terminating in a pointed extremity which engages the forwardly projecting teeth of the segment. This dog prevents a rearward rocking movement of the handle lever, which rocking movement of the handle lever causes the shoes to be lowered in the direction of the traffic rails. It is clear that when both dogs are in engaged position that the handle lever will be positively locked against forward or rearward movement until the release of one or other of the dogs.

What is claimed is:

1. A rail scraping device including a shoe, a plurality of independent parallel lifting links loosely secured to the shoe and attached pivotally to a car bottom, and operating to maintain the shoe tread parallel with the rail tread during raising or lowering movement of the shoe, said shoe being adapted to ride on the rail tread, a rail scraping blade on the leading end of said shoe, and means for raising or lowering said shoe.

2. A rail scraping device including a shoe, a plurality of independent parallel lifting links pivotally connected to the shoe and attached pivotally to a car bottom, and operating to maintain the shoe tread parallel with the rail tread during raising and lowering of the shoe, means projecting from said shoe tread and engageable with the inner side of the traffic rail head and performing the function of guides for maintaining said shoe in operative position on a rail tread, a blade on the leading end of said shoe, and

manually controlled means for raising or lowering said shoe.

3. A rail scraper including a shoe, a plurality of independent spaced lifting links
5 loosely secured to the shoe and pivotally attached to a car bottom, said links operating to raise and lower said shoe, said links remaining parallel during relative movement whereby the shoe tread is maintained
10 parallel with the rail tread, guides on said shoe tread engageable with the inner side of the rail head for maintaining said shoe in operative position, a blade adjustably

mounted on the leading end face of said shoe and having a rail scraping edge adapted to 15 bear intimately against the tread and inner side of the rail head, and a manually controllable means connected with said shoe and operating to raise or lower said shoe.

In testimony whereof, I affix my signature, 20
In presence of two witnesses.

MOSES WELLS.

Witnesses:

ELIZABETH C. SARGENT,
HAZEL F. WHITCOMB.

Copies of this patent may be obtained for five cents each, by addressing the "Commissioner of Patents,
Washington, D. C."
