

H. A. BENEDICT.

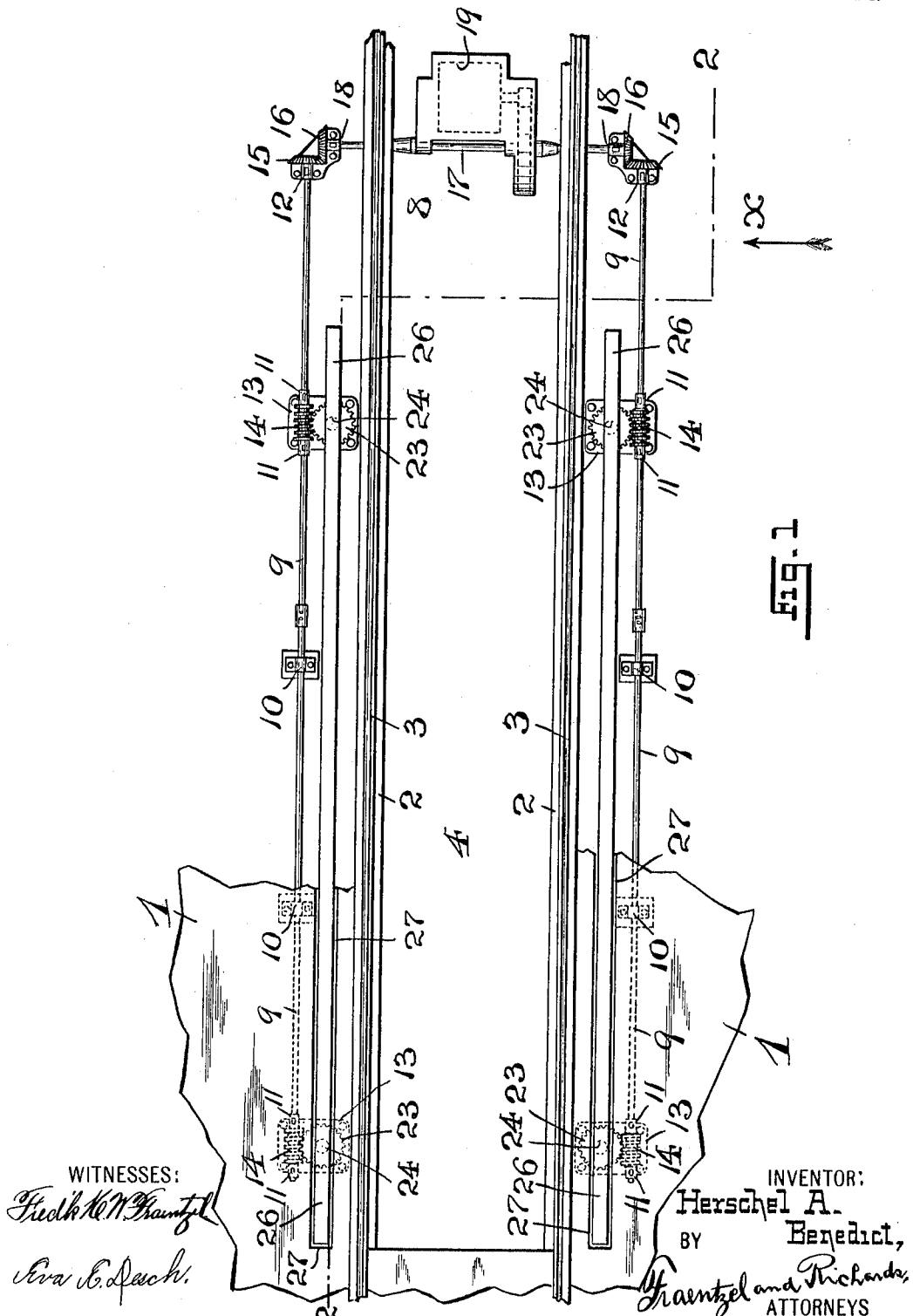
CAR HOIST.

APPLICATION FILED MAR. 26, 1914.

1,102,232.

Patented July 7, 1914.

3 SHEETS-SHEET 1.

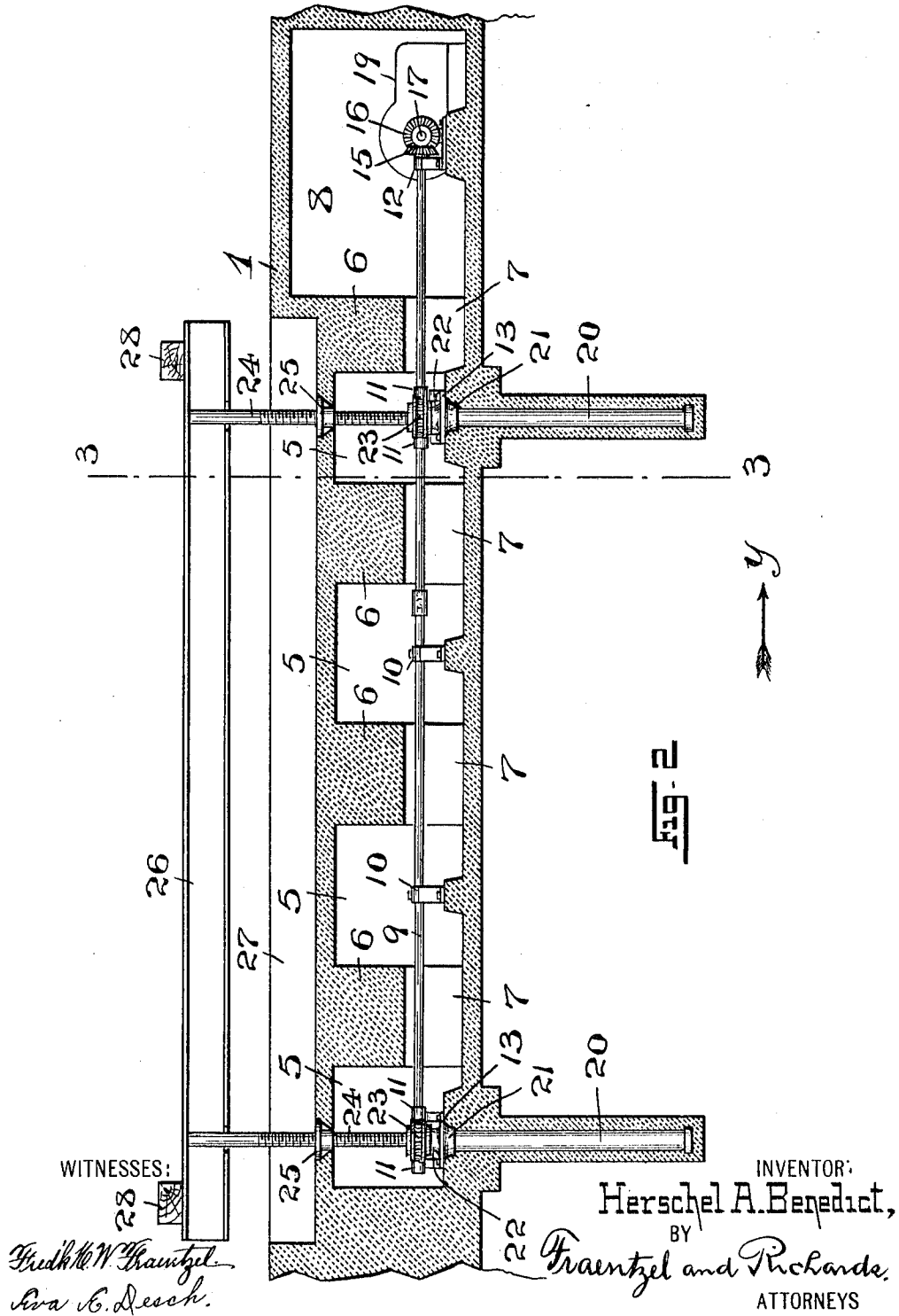


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3 SHEETS-SHEET 2.



WITNESSES:

Fred W. Fraentzel
Per C. Desch.

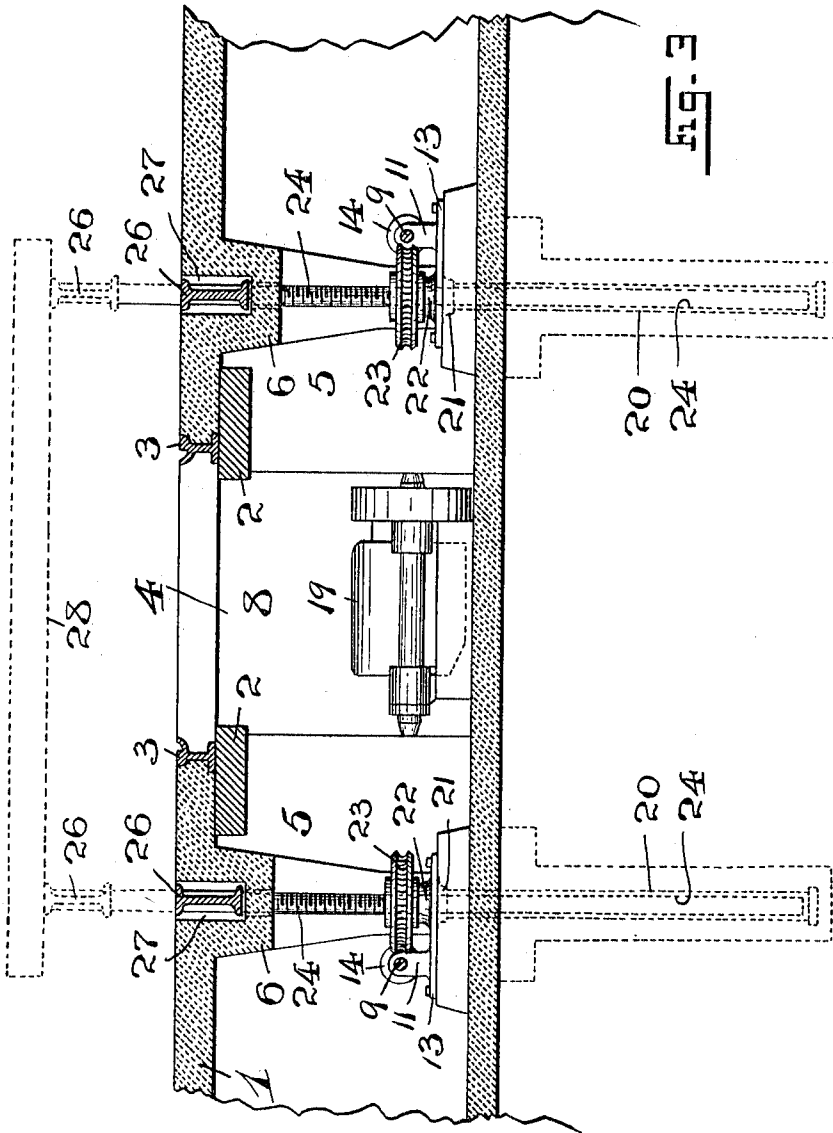
INVENTOR:
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BY
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ATTORNEYS

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WITNESSES:

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INVENTOR:

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UNITED STATES PATENT OFFICE.

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CAR-HOIST.

1,102,232.

Specification of Letters Patent.

Patented July 7, 1914.

Application filed March 26, 1914. Serial No. 827,488.

To all whom it may concern:

Be it known that I, HERSCHEL A. BENEDICT, a citizen of the United States, residing at East Orange, in the county of Essex and State of New Jersey, have invented certain new and useful Improvements in Car-Hoists; 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, reference being had to the accompanying drawings, and to characters of reference marked thereon, which form a part of this specification.

This invention has reference, generally, to improvements in car-hoists; and, the present invention relates, more particularly, to a novel means or apparatus for raising a railway car sufficiently above the level of the tracks, for the proper inspection of those parts of the car which are located beneath the platforms and the flooring of the body of the car.

The present invention, therefore, has for its principal object to provide a simply constructed power-driven and efficiently operating car-hoisting apparatus or mechanism which is used in connection with a section of railway rails, without however raising the section of rails, and which may be used with a pit over which the car is run, all with a view of providing an easily and quickly operated mechanism for lifting a car to a sufficient height above the railway rails to permit the lower body of the car to be readily inspected from either side of the car-body, thereby avoiding the necessity of crawling under the car and working in tiresome or tedious positions, or avoiding, furthermore, the necessity of getting down into the usually shallow pit.

Other objects of this invention not at this time more particularly enumerated will be clearly understood from the following detailed description of the present invention.

With the objects of the present invention in view, the said invention consists, primarily, in the novel car-hoisting apparatus hereinafter set forth; and, the invention consists, furthermore, in the novel arrangements and combinations of the various devices and parts, as well as in the details of the construction of the same, all of which will be more fully described in the following specification, and then finally embodied

in the clauses of the claim which are appended to and which form an essential part of this specification.

The invention is clearly illustrated in the accompanying drawings, in which:—

Figure 1 is a plan view of the car-hoisting mechanism, illustrating one embodiment of the principles of the present invention; Fig. 2 is a vertical sectional representation of the same, said section being represented as taken on line 2—2 in said Fig. 1, looking in the direction of the arrow *x*; and Fig. 3 is a transverse vertical section, taken on line 3—3 in said Fig. 2, looking in the direction of the arrow *y*, and said view being made on an enlarged scale.

Similar characters of reference are employed in the above described views, to indicate corresponding parts.

Referring now to the said drawings, the reference character 1 indicates a suitable foundation of concrete, or any other material, and 2 indicates the usual stringer-pieces, upon which are suitably secured the usual railway rails 3.

In the present construction, the reference-character 4 indicates a suitable pit, and 5 are suitable chambers which are located at the sides of the pit and communicate therewith, substantially in the manner shown. The supporting piece 6 are cut away or are otherwise formed with openings, as 7, so as to establish communications between the chambers 5 and with an end-chamber 8, as will be clearly understood from an inspection of Fig. 2 of the drawings. Extending laterally across the said chambers 5 and the openings 7, and extending also into the end-chamber 8, at each side of the main pit, are shafts 9 which are rotatably mounted in suitable bearings, as 10, 11 and 12. At suitable intervals, and located between the bearings 11 extending from suitable bed-plates 13, the said shafts 9 are provided with worms 14, and at their end-portions which terminate in the end-chamber 8 the said shafts 9 are provided with bevel-gears, as 15. In mesh with the said bevel-gears 15 of the shafts 9 are other bevel-gears 16 which are suitably mounted upon a motor-driven, or other suitably operated shaft 17 rotatably mounted in bearings 18 and extending laterally across the end-chamber 8. In the present case, the said shaft 17 is shown driven from a suitable electric motor, as 19, but it will be un-

derstood that any other means for driving said shaft 19 may be employed, if desired.

Suitably embedded in the foundation or concrete structure and adjacent to each worm 14 upon the said shafts 9, are vertical tubular receiving members or elements, as 20, suitably connected at their upper ends with tubular hub-like members, as 21, extending from the lower surfaces of the previously mentioned bed-plates 13. Projecting upwardly from the said bed-plates 13 are other tubular hub-like members 22, and rotatably mounted upon the said hub-like members 22 are suitable worm-wheels, as 23, each worm-wheel meshing with a worm 14, substantially as shown in Fig. 1 of the drawings. The hub-like and central body-portions of said worm-wheels 23 are internally screw-threaded in the usual manner, certain screw-threaded rods, as 24, see Figs. 2 and 3, extending through and being in operative mesh with the internally screw-threaded portions of the said worm-wheels. The lower portions of said screw-threaded rods 24, below the said worm-wheels, extend through the guiding hub-like members 21 and 22 and into the respective vertical tubular receiving members or elements 20, as indicated in dotted outline in said Fig. 3, the upper portions of said screw-threaded rods 24 extending through suitable guide-members 25 and having suitably mounted upon each pair of said rods 24, suitable lifting beams, as 26, preferably in the form of I-beams, said beams normally being located in suitable channels, as 27, placed in the foundation and located at the outer sides of the railway-rails 3, at suitable distances therefrom, as clearly shown in said Fig. 3 of the drawings.

When it is desired to lift a car from the railway rails 3 for inspection, the car is run in position over the pit, the mechanism being in its normally lowered position, as represented in said Fig. 3. Suitable beams, as 28, are now placed beneath the respective end-portions of the car-body, the ends of said beams 28 resting upon and projecting over the parallel I-beams 26. The mechanism is now set in motion, by operating the shaft 17, and by means of the bevel-gears 16 and 15 setting in motion the two shafts 9. The worms 14 mounted upon said shafts 9 in turn actuate the several worm-wheels 23, so as to cause the screw-threaded rods 24 to move in upward directions. The upward movements of said rods 24 will in consequence lift the I-beams 26 and the beams 28 supported across said I-beams, until the beams 28 are brought against the lower surface of the end-portions of the car-body. The operation of the mechanism still continuing, it will be clearly evident, that the car is and may be lifted from the railway-rails to a sufficient height, to en-

able an inspection of the car-body beneath the flooring thereof, and from either side of the car. When it is desired to again return the car into its supported relation upon the railway rails 3, the operation of the mechanism is reversed, so that the mechanism and the raised car are again returned to their normal initial positions.

Of course, I am aware that some changes may be made in the general arrangements and combinations of the various devices and parts, as well as in the details of the construction of the said parts, without departing from the scope of the present invention as set forth in the foregoing specification, and as defined in the clauses of the claim which are appended to the said specification. Hence, I do not limit my present invention to the exact arrangements and combinations of the various devices and parts, as described in the said specification, nor do I confine myself to the exact details of the construction of the said parts as illustrated in the accompanying drawings.

I claim:—

1. In a car-hoist, the combination with a foundation provided with a pit and chambers in communication with said pit, said foundation being also provided with beam-receiving channels, and railway rails, of I-beams normally located in said channels, and means in engagement with said I-beams, for raising and lowering said beams.

2. In a car-hoist, the combination with a foundation provided with a pit and chambers in communication with said pit, said foundation being also provided with beam-receiving channels, and railway rails, of I-beams normally located in said channels, guide-members connected with said foundation, screw-threaded rods guided in said guide-members, said I-beams being mounted upon said screw-threaded rods, vertical tubular receiving members into which the lower portions of said screw-threaded rods extend, a worm-wheel connected with each rod for raising and lowering said rods, a worm in engagement with each worm-wheel, and means for actuating said worms.

3. In a car-hoist, the combination with a foundation provided with a pit and chambers in communication with said pit, said foundation being also provided with beam-receiving channels, and railway rails, of I-beams normally located in said channels, guide-members connected with said foundation, screw-threaded rods guided in said guide-members, said I-beams being mounted upon said screw-threaded rods, vertical tubular receiving members into which the lower portions of the said screw-threaded rods extend, a worm-wheel connected with each rod for raising and lowering said rods, a worm in engagement with each worm-wheel, longitudinally extending shafts upon

which said worms are mounted, said shafts
being mounted in bearings in the chamber
to either side of the pit, a laterally extend-
ing shaft, intermeshing bevel-gears upon
5 said longitudinally extending shafts and said
laterally extending shaft, and means for
driving said laterally extending shaft.

In testimony, that I claim the invention
set forth above I have hereunto set my hand
this 23rd day of March, 1914.

HERSCHEL A. BENEDICT.

Witnesses:

FREDK. C. FRAENTZEL,

FREDK. H. W. FRAENTZEL.

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