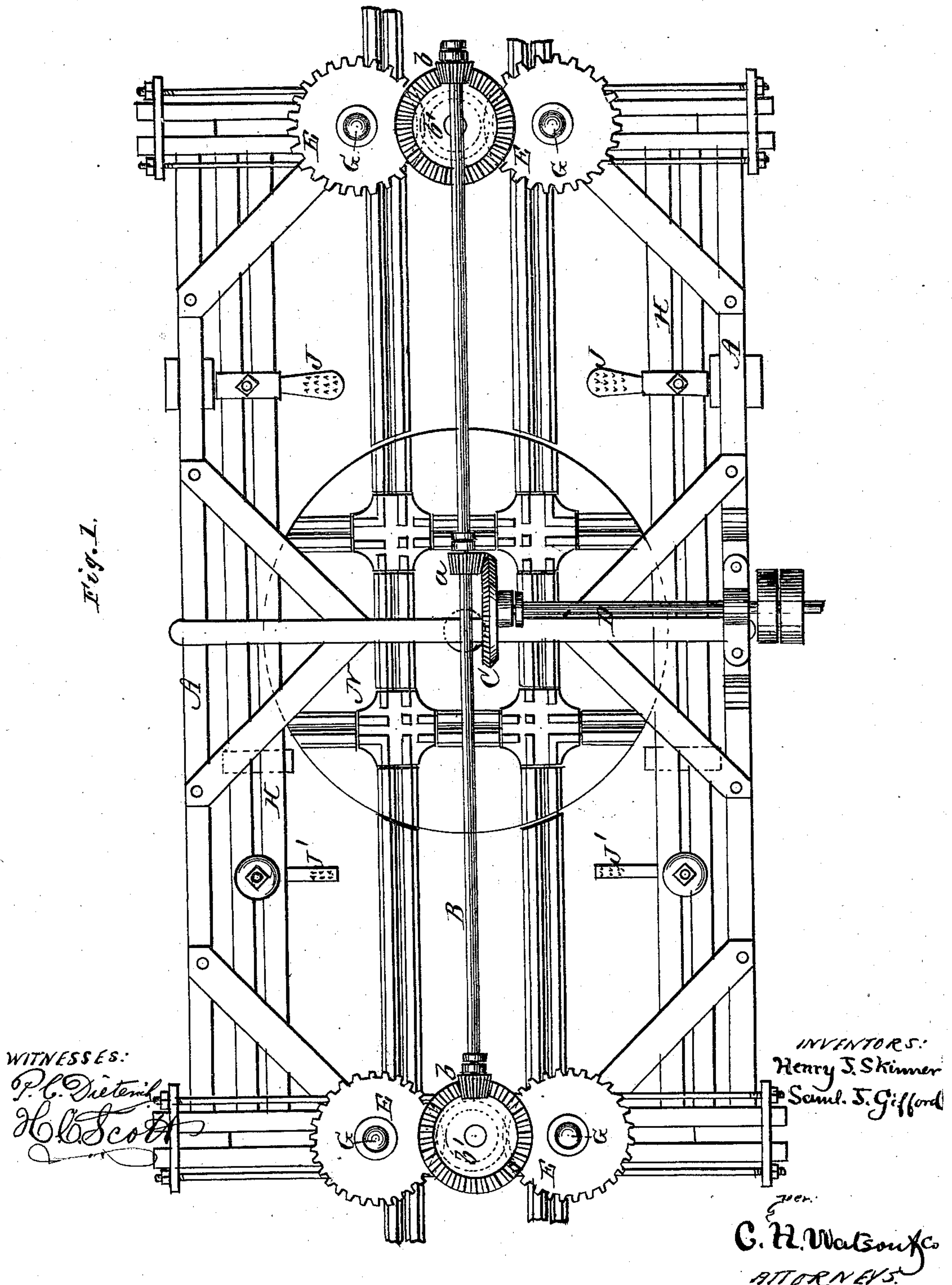


H. J. SKINNER & S. J. GIFFORD.  
Hoisting Apparatus for Railroad Cars.

No. 152,873.

Patented July 7, 1874.

Fig. 1.

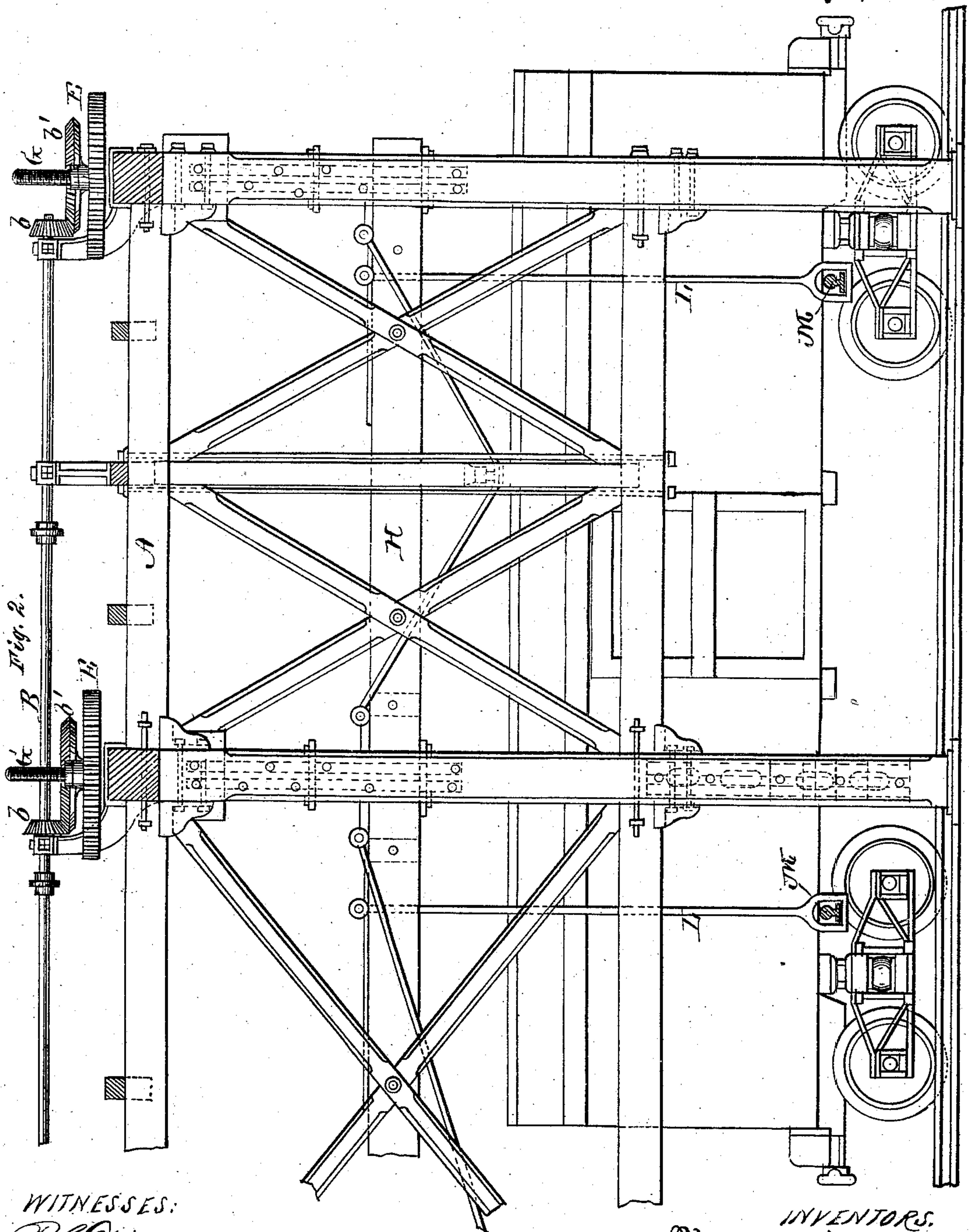


3 Sheets--Sheet 2.

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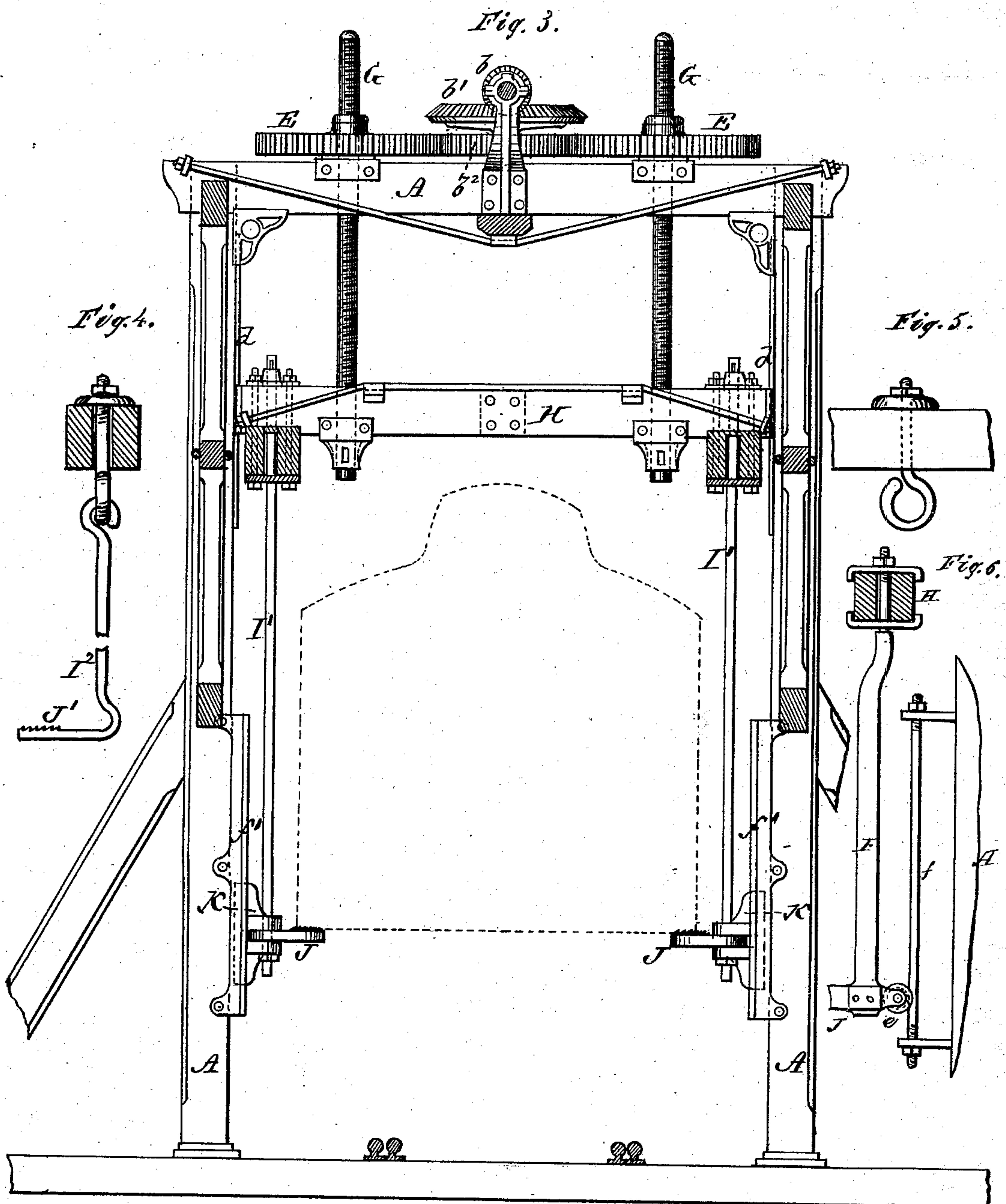
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# UNITED STATES PATENT OFFICE.

HENRY J. SKINNER AND SAMUEL J. GIFFORD, OF DUNKIRK, NEW YORK.

## IMPROVEMENT IN HOISTING APPARATUS FOR RAILROAD-CARS.

Specification forming part of Letters Patent No. **152,873**, dated July 7, 1874; application filed June 18, 1874.

*To all whom it may concern:*

Be it known that we, HENRY J. SKINNER and SAMUEL J. GIFFORD, of Dunkirk, in the county of Chautauqua and State of New York, have invented certain new and useful Improvements in Hoisting Apparatus for Railroad-Cars and Locomotives; and we do hereby declare that the following is a full, clear, and exact description thereof, reference being had to the accompanying drawings, and to the letters of reference marked thereon, which form a part of this specification.

The nature of our invention consists in the construction and arrangement of a hoisting-machine for elevating or raising locomotives and railroad-cars, in which the power is applied from the top, lifting the cars bodily from the track, as will be hereinafter more fully set forth.

In order to enable others skilled in the art to which our invention appertains to make and use the same, we will now proceed to describe its construction and operation, referring to the annexed drawings, in which—

Figure 1 is a plan view of our hoisting-machine. Fig. 2 is a side elevation of the same. Fig. 3 is a transverse vertical section of the entire machine. Figs. 4, 5, and 6 are detached views of devices used for supporting the cars in hoisting.

A represents the frame-work of our machine, built in any suitable, strong, and durable manner to support the weight intended to be suspended therein. In suitable bearings on top of the frame-work A, and running longitudinally in the center of the same, is a shaft, B, which is intended to extend the entire length of the hoisting-machine. This shaft is at any suitable point, say about the center of the machine, provided with a miter-pin, *a*, which gears with a miter-wheel, C, upon the driving-shaft D. This latter shaft runs at right angle with the longitudinal shaft B, and is provided with suitable pulleys, to be connected by belt or otherwise with the engine or other power employed. At suitable points upon the shaft B are other miter-pinions, *b* *b*, each of which, through the medium of gears *b*<sup>1</sup> *b*<sup>2</sup>, drives two cog-wheels, E E. These wheels

have female screw-threads in their hubs, and are placed upon two vertical screws, G G, the lower ends of which are securely fastened to the end pieces of a rectangular frame, H, placed within the main frame E. Both the side and end pieces of the frame H are each constructed of two parallel beams, clamped together in such a manner as to be a short distance apart, and the frame is braced in the most thorough and substantial manner. At each end of the frame H, and at any intermediate points where it may be deemed necessary, are formed grooves on each side to fit over vertical guides *d* in the frame A, and thus guide the movable frame H in its movement up and down. Various devices are used for suspending the cars from the frame H.

In Fig. 6 we have shown a bar, I, attached in the side piece of the frame, and hanging vertically downward. This bar is at its lower end provided with a shoe, J, the toe of which extends inward, and the heel provided with a grooved friction-roller, *e*, to run upon a vertical guide, *f*.

In Fig. 3 we show a depending rod, I<sup>1</sup>, the lower end of which is connected to a slide, K, moving in a guide, *f*<sup>1</sup>, and in this slide, upon the rod, is pivoted the shoe J.

In Fig. 4 we show simply a rod, I<sup>2</sup>, having its lower end bent to form a hook, J<sup>1</sup>, and the upper end of said rod is attached to an eye-bolt fastened in the frame H.

In either of these cases the frame H is lowered until the shoes can be turned under the bottom edge of the car, and, by raising the frame again, the car is lifted bodily up, being supported upon the shoes, and suspended from the frame, as shown in Fig. 3.

A hoisting-machine of this kind may be used for various purposes in building or repairing cars, and wherever desired to change the gage, and in that case it should be erected over a turn-table, N, carrying both narrow and wide tracks.

The machine may be built of any desired length, if necessary, so as to hoist a whole train of cars at one time. The principle of our invention is to apply the power at the top of the machine through the medium of a central line-

shaft, so as to lift the cars from above bodily up from the track.

Having thus fully described our invention, what we claim as new, and desire to secure by Letters Patent, is—

1. The combination, in a car-hoisting machine, of a stationary frame-work, a central longitudinal shaft above the same, gearing connecting said shaft with vertical screws, and a movable frame attached to said screws, and provided with devices for lifting the cars bodily up from the track, substantially as herein set forth.

2. The combination, with the stationary

frame A and movable frame H, of the bar I, shoe J, and roller e, or equivalents, substantially as and for the purpose specified.

3. The guide f and frame A, in combination with roller e, shoe J, and bar I, substantially as and for the purpose specified.

In testimony that we claim the foregoing as our own we affix our signatures in presence of two witnesses.

HENRY J. SKINNER.  
SAMUEL J. GIFFORD.

Witnesses:

H. COLMAN,  
WM. E. CANDELL.