

(No Model.)

4 Sheets—Sheet 1.

A. F. CLARK.

CAR STARTER.

No. 274,463.

Patented Mar. 27, 1883.

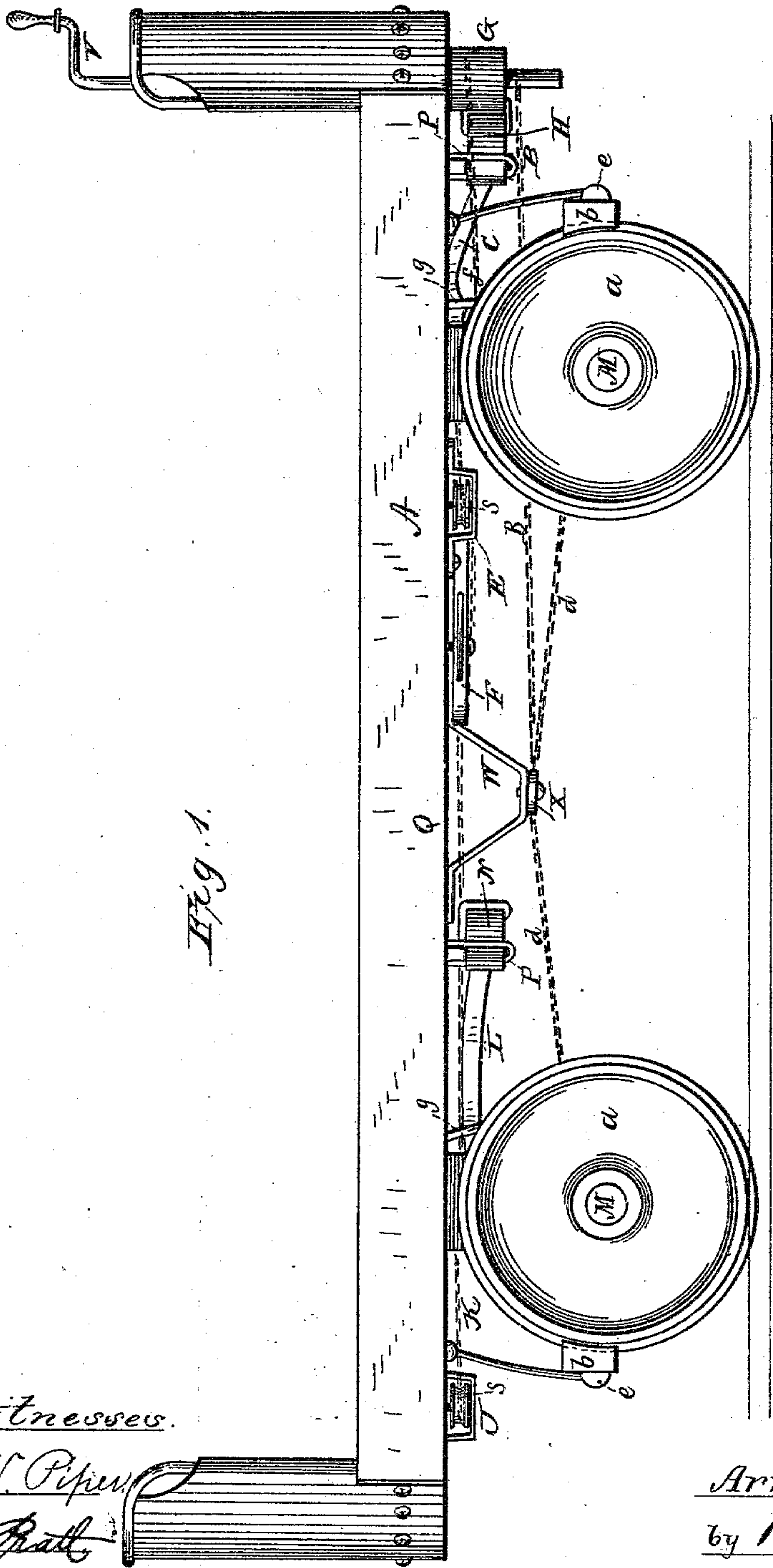


Fig. 1.

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E. B. Hall

Inventor
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by R. H. Eddy atty.

(No Model.)

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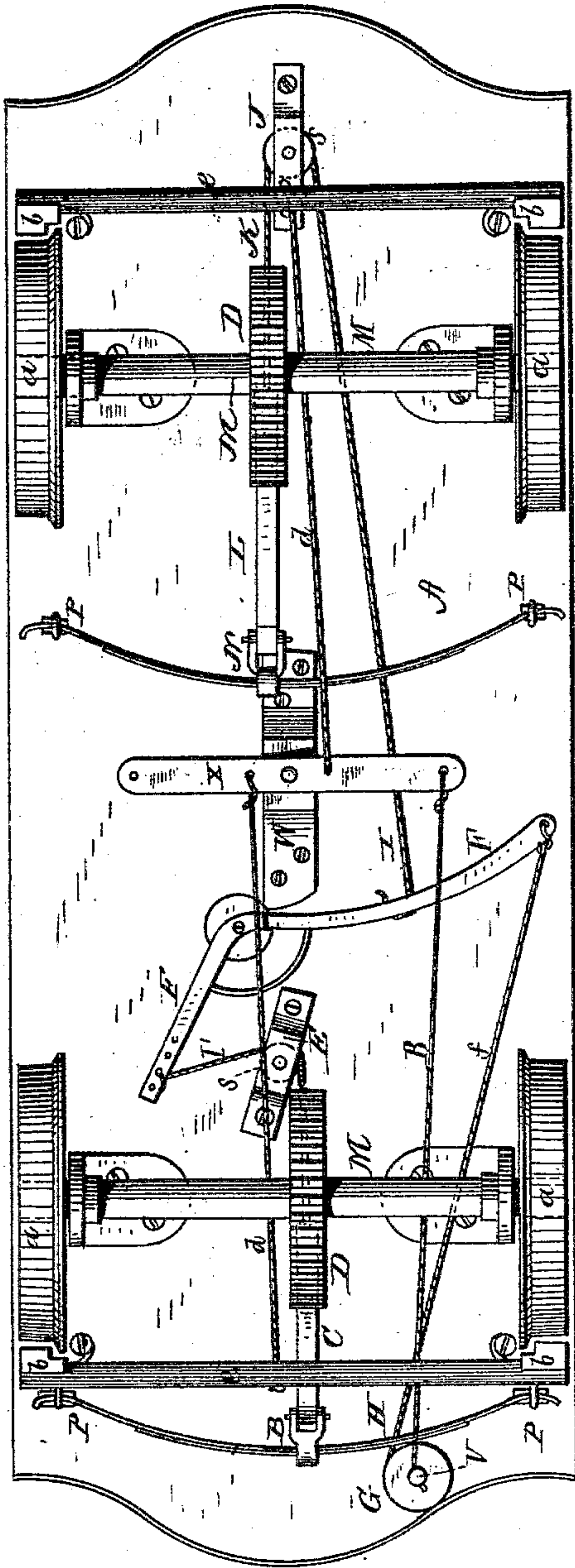
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Fig. 2.



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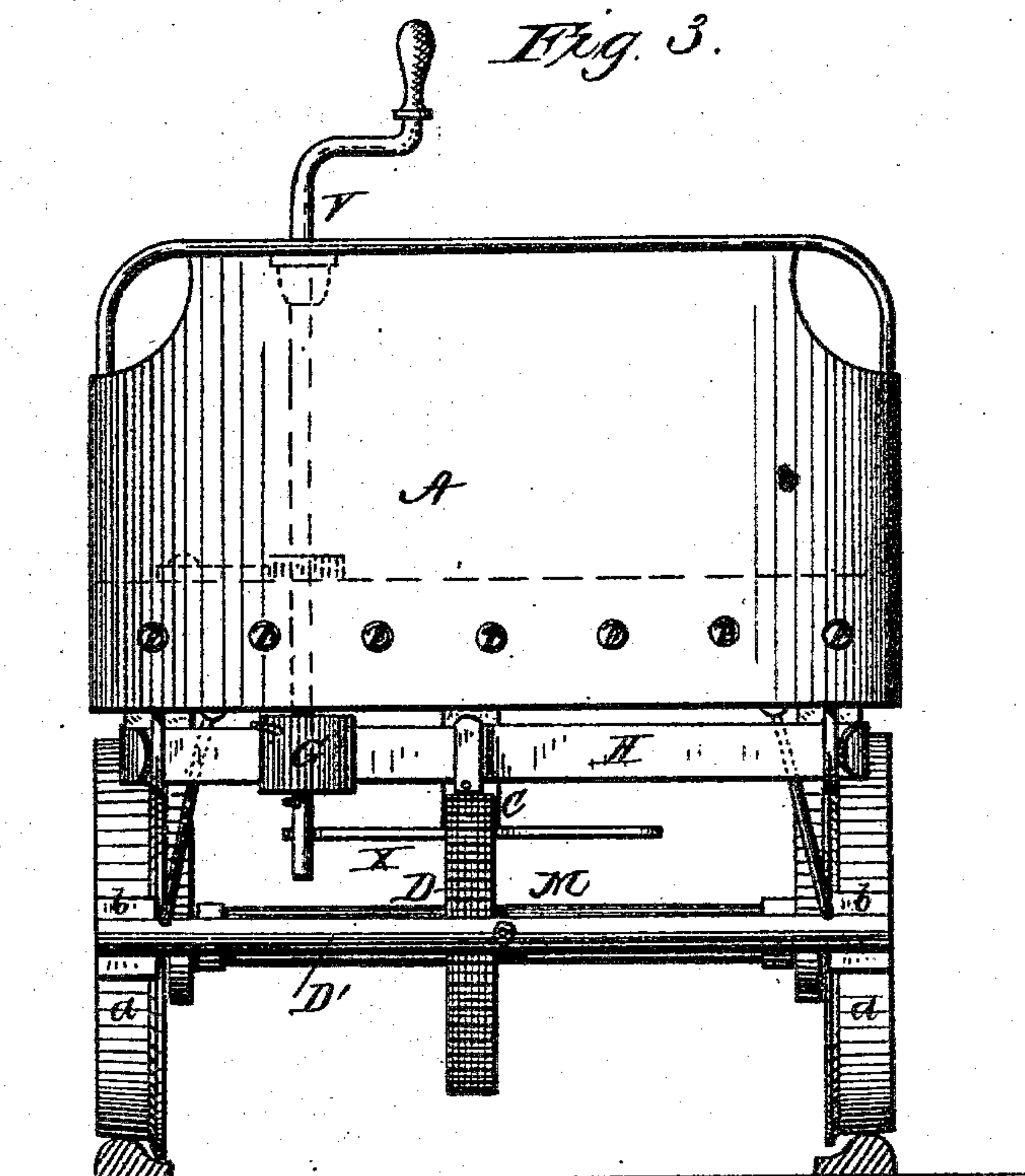
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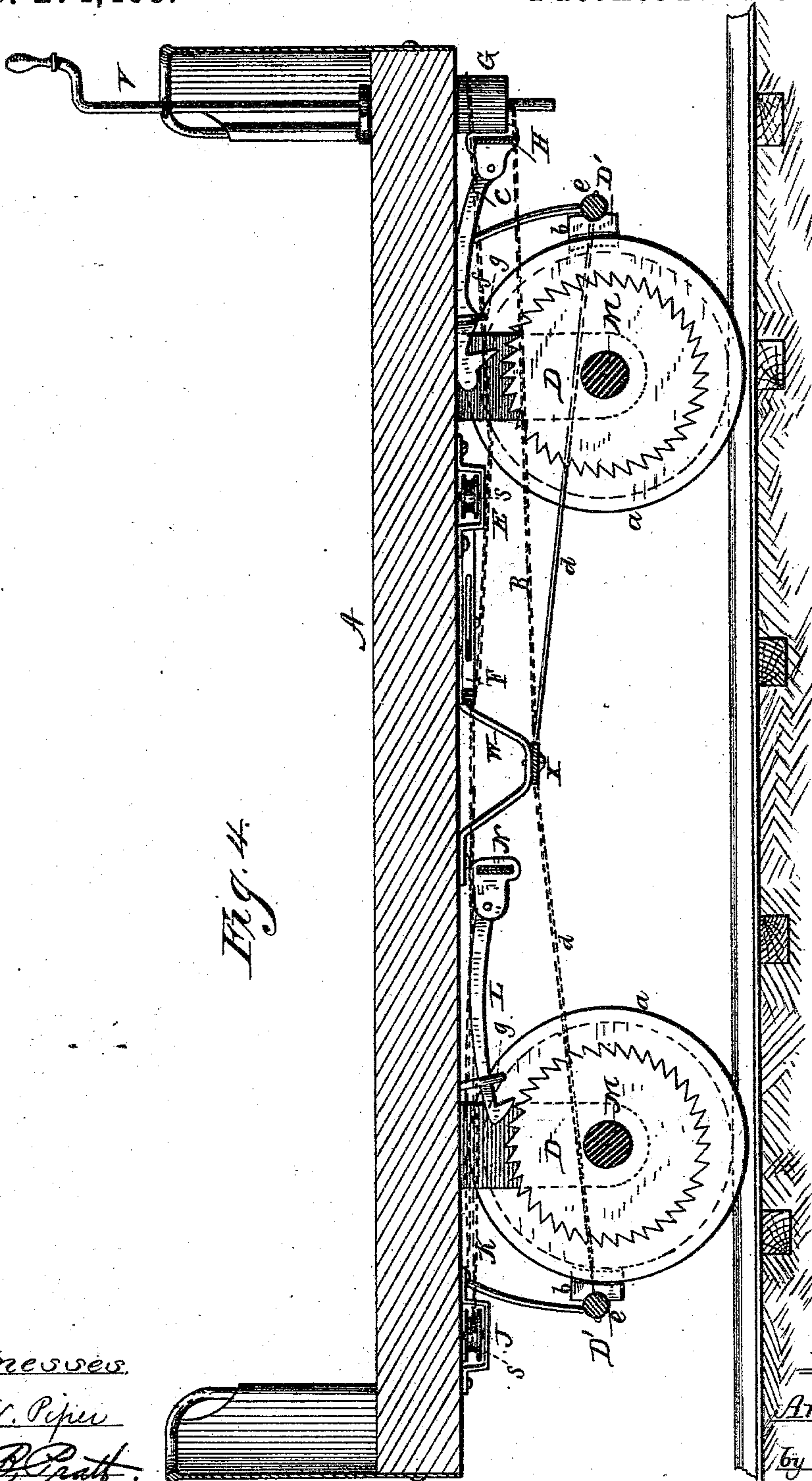


Fig. 4.

Witnesses

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Arta F. Clark.

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UNITED STATES PATENT OFFICE.

ARRA F. CLARK, OF BOSTON, MASSACHUSETTS.

CAR-STARTER.

SPECIFICATION forming part of Letters Patent No. 274,463, dated March 27, 1883.

Application filed September 16, 1882. (No model.)

To all whom it may concern:

Be it known that I, ARRA F. CLARK, of Boston, in the county of Suffolk, of the State of Massachusetts, have invented a new and useful Improvement in Mechanism for Stopping and Starting Street-Railway Cars; and I do hereby declare the same to be described in the following specification and represented in the accompanying drawings, of which—

Figure 1 is a side elevation, Fig. 2 an under side view, Fig. 3 an end elevation, and Fig. 4 a longitudinal section, of a car provided with my invention, the nature of which is defined in the claims hereinafter presented.

With my improvement the power of starting the car is not generated by the momentum of the car in the process of stopping it, as is the case with various other mechanical car-starters, but is derived from the driver or brakeman in setting up the brakes or drawing them to the wheels; and to this end there is combined with the actuating cranked shaft of the brake-operative mechanism a mechanism for starting the car while or after such cranked shaft may have been set free, so as to allow the brakes to be moved away from the wheels.

In the drawings, the car platform or body is shown at A and the axles of its four wheels *a* at M M. The actuating cranked shaft of the brakes *b* is represented at V, it having fixed to it a rope or chain, B, extending from it and fastened to one arm of a lever, X, such lever being arranged at the middle of and underneath the car platform or body. From the arms of this lever, ropes or chains *d d* extend to the brake-connection bars *e e*. By turning the shaft V so as to wind the chain B thereon, the brakes will be set up to the wheels. There is fixed upon the shaft V a pulley, G, to whose periphery a chain or rope, *f*, is fastened, such chain or rope being also fastened to the longer arm of a bent lever, F, arranged as represented. To the arms of this lever ropes I and I' are fixed and extended around sheaves *s s* in two carriers, E and J, arranged as shown, such ropes being fastened to two draw-pawls, C and L, each of which is hinged to one of two bow-springs, H and N, arranged underneath the car-body and supported near their ends in staples P or other proper devices. These draw-pawls extend through stationary staples *g g* and directly over two ratchet-wheels, D D, fixed upon the axles M M.

W is a hanger for supporting the lever X. On turning the shaft V to set up the brakes the chain or rope *f* will be wound upon the pulley G, and will turn the lever F, whereby its ropes I and I' will be caused to draw the pawls forward over and into engagement with the ratchet-wheels, the springs with which the said pawls are connected being in the meantime contracted, in order that when the shaft V may be set free to revolve backward to relieve the wheels from the brakes the power thus generated in the springs may cause them to expand and draw the pawls against the ratchet-wheels in order to cause them to revolve the axles, and thereby start or aid in starting the car forward. Each of the draw-pawls, formed as represented in Fig. 4, will at a proper time, in being drawn backward in its supporting-staple *g*, rise or be caused to rise out of engagement with its ratchet-wheel, such being to enable it to revolve without contact with the pawl while the car may be running on the track. Were the pawls to rest on the ratchet-wheels while the car may be running, disagreeable noise or clatter would result.

I do not claim the brake-operative mechanism as hereinbefore described.

What I do claim is—

1. The combination, with the brake-operative mechanism actuated, as specified, by its cranked shaft V, of mechanism, substantially as described, for starting the car, such consisting in the pulley G, chain or rope *f*, lever F, chains or ropes I I', draw-pawls C L, bow-springs H N, and ratchet-wheels D D, all being arranged and adapted substantially as set forth.

2. The car-starting mechanism or combination, substantially as described, consisting of the pulley G, chain or rope *f*, lever F, chains or ropes I I', draw-pawls C L, bow-springs H N, and ratchet-wheels D D, arranged and adapted essentially as set forth.

3. The combination of the staples *g g* with the draw-pawls C L, the ratchet-wheels D D, springs H N, chains or ropes I I', lever F, chain or rope *f*, and pulley G, applied to the cranked shaft V, all being arranged and adapted substantially as shown and described.

ARRA F. CLARK.

Witnesses:

R. H. EDDY,
E. B. PRATT.