

(No Model.)

2 Sheets—Sheet 1.

J. D. STOVALL.

CAR BRAKE.

No. 370,500.

Patented Sept. 27, 1887.

Fig. 1.

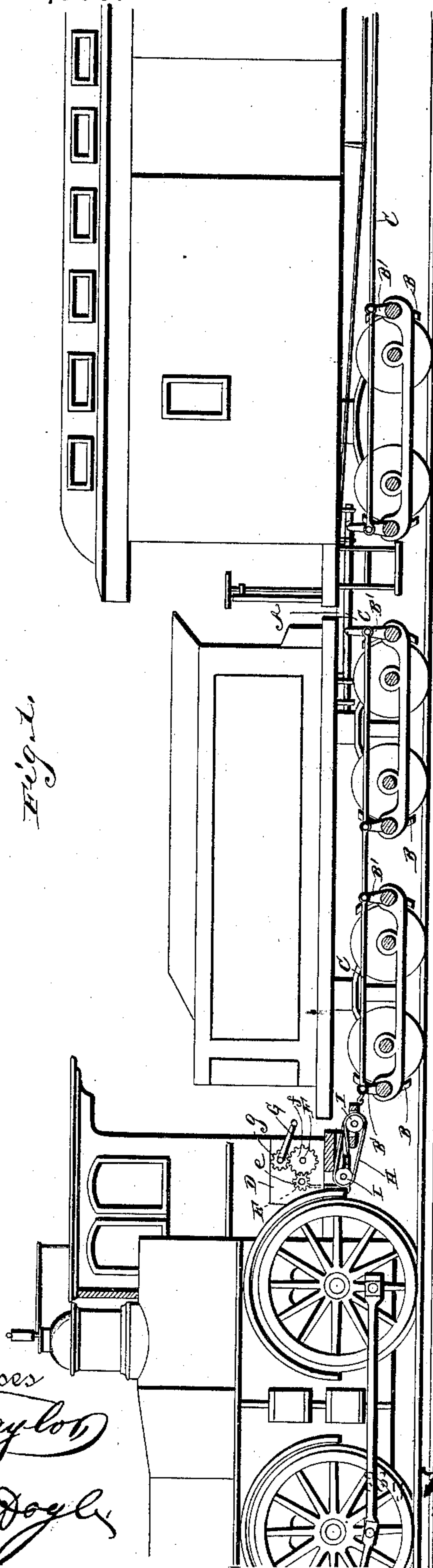
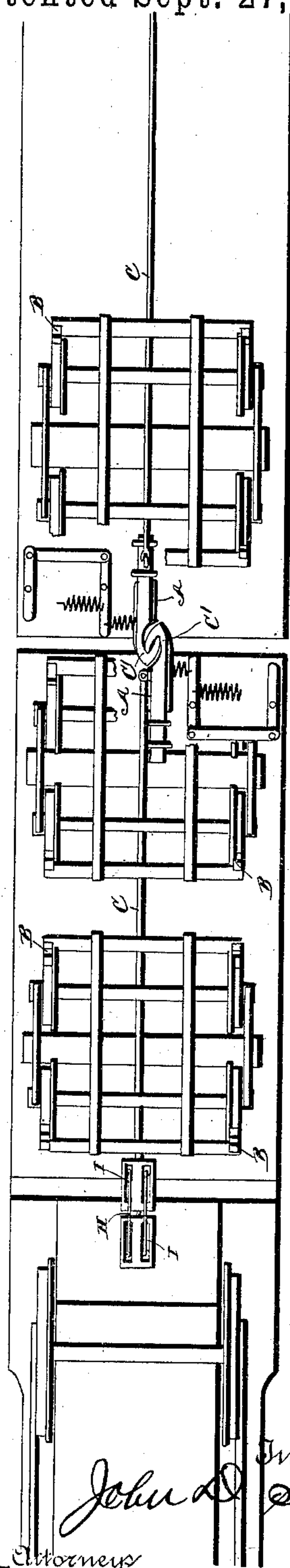


Fig. 2.



Witnesses
C. B. Taylor
C. E. Doyle

Inventor
John D. Stovall
His Attorneys
C. A. Snowdon

(No Model.)

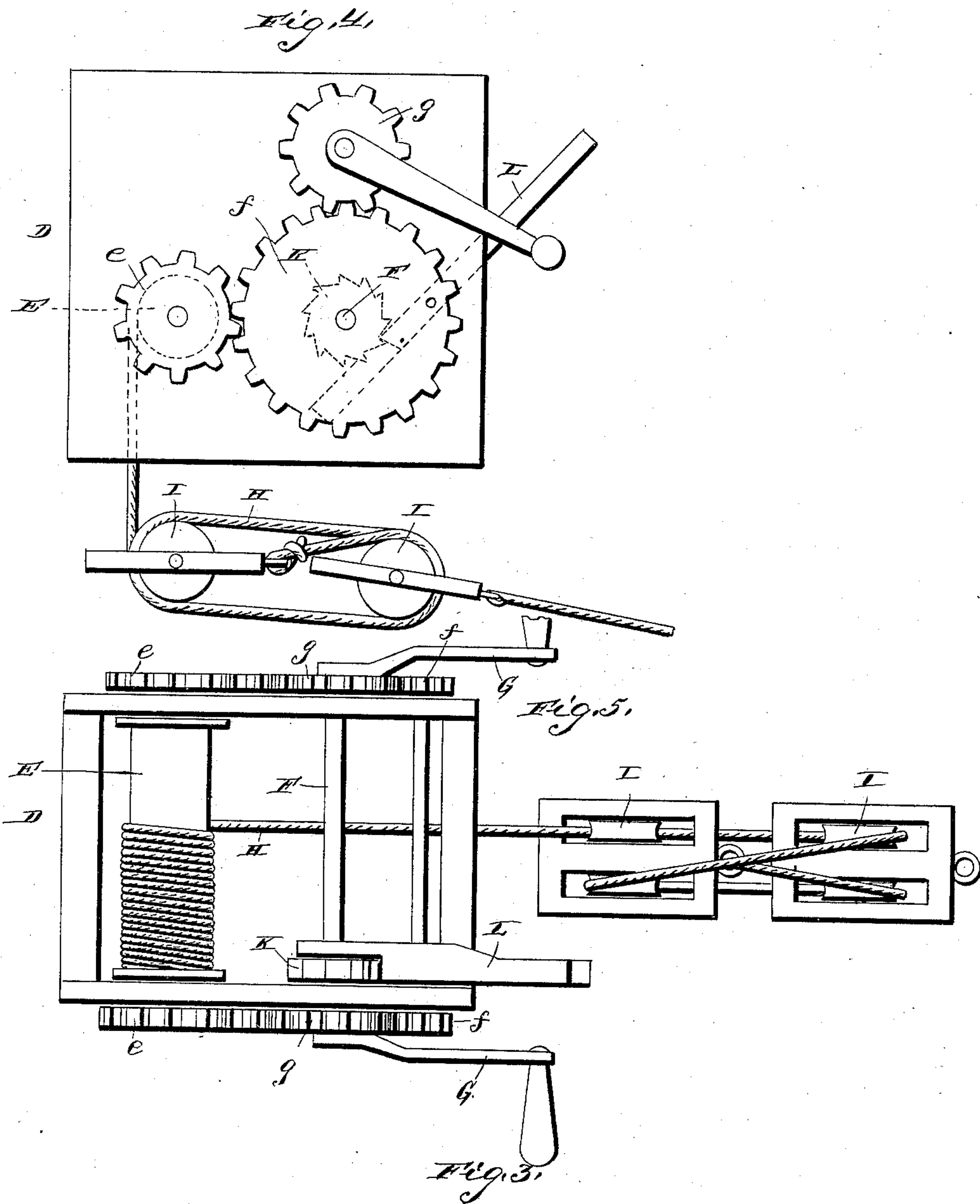
2 Sheets—Sheet 2.

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Witnesses
C. S. Taylor
A. E. Doyle

Inventor
J. D. Stovall

By his Attorneys
C. A. Howler

UNITED STATES PATENT OFFICE.

JOHN D. STOVALL, OF TERRELL, TEXAS.

CAR-BRAKE.

SPECIFICATION forming part of Letters Patent No. 370,500, dated September 27, 1887.

Application filed July 16, 1887. Serial No. 241,534. (No model.)

To all whom it may concern:

Be it known that I, JOHN D. STOVALL, a citizen of the United States, residing at Terrell, in the county of Kaufman and State of Texas, have invented a new and useful Improvement in Brakes for Trains, of which the following is a specification.

My invention relates to improvements in brakes for trains; and it consists in a certain novel construction and arrangement of parts, fully set forth hereinafter, and specifically pointed out in the claims.

The present invention is designed to be used in connection with the car-coupling described and shown in a previous application made by J. D. Stovall and W. C. Whittington, filed April 25, 1887, and bearing Serial No. 236,076.

In the drawings hereto annexed, Figure 1 is a side view of a portion of an engine and train attached thereto, showing my device as when applied. Fig. 2 is a bottom plan view of the same. Fig. 3 is a detail view showing the manner of attaching the couplings for the brake attachment to the car-coupling. Fig. 4 is a side view of the device for operating the brake, and Fig. 5 is a plan of the same.

Referring by letter to the drawings, A designates the coupling hook or link of the car-coupling to which the coupling-hooks of the brake are attached, the said links coupling and uncoupling by moving laterally.

B B designate the brake-shoes attached to a transverse shaft extending across the car in the ordinary manner, and supported from the floor of the same by any ordinary or preferred means, as brackets; and the said shafts are provided at the centers with the arms B', which extend up to the floor of the car, or near the same, and are secured at the upper ends to the longitudinal rods C, which extend the entire length of the car.

C' C' are coupling-hooks pivoted to the ends of the said rods C, having lateral play similar to the coupling-links A A, and the said hooks are passed at the shanks through sleeves or keepers on the under side of the said coupling-links. The said shanks are capable of longitudinal movement in the said keepers, and the hooks on the ends of the shanks are made very broad.

It will be seen that when the coupling-links

are moved laterally to couple or uncouple, the coupling-hooks of the brake will be similarly moved, and consequently will be coupled or uncoupled simultaneously with the car-coupler.

When the longitudinal rod C is drawn toward the front of the car, the upper ends of the arms B' are moved and the brake-shoes are forced against the wheels of the car, and it will be seen that when the said rods C C are coupled together by means of the coupling-hooks C' C', if the front end of the rod C is drawn forward every car in the train will be braked.

The device for operating the said rod C is placed in the caboose of the engine, and consists of a frame, D, having a transverse drum, E, therein, provided on the ends with the ratchet-wheels e, a transverse shaft, F, having the large ratchet-wheels f f on the ends to mesh with the ratchets e, and the small ratchet-wheels g g, journaled to the sides of the frame and adapted to mesh with the ratchet-wheels f f, and having the crank-arms G G attached thereto.

It will be seen that when the crank-arms G G (or either of them) are turned the drum will be rotated. A chain or rope, H, is attached to the said drum and extended down to the bottom of the engine, and after being carried around the double pulleys I I to gain power it is attached at the end to one of the pulleys, (namely, the front one,) and the rear pulley is attached to the front end of the brake-rod C.

Obviously, when the drum is turned, the chain or rope H will be drawn upon and the said brake-rod will be drawn forwardly, thus forcing the brake-shoes of every car against the wheels. To enable the said shoes to be held in contact with the wheels of the cars, a ratchet-wheel, K, is placed on the shaft F in the frame D, and a hand-pawl or dog, L, is pivoted in the frame to engage in the said ratchet-wheel.

It will be seen that the device is very simple, and it is also very effective; and as the brake-rods of the entire train can be coupled together for simultaneous operation, (the said coupling being automatic,) and a single operator having control of the brakes, much danger and expense are saved.

Short chains may be attached to the brake-rods and carried to the ordinary revolving vertical shafts, having the hand-wheels on the upper ends to enable a single car to be braked 5 when separated from a train.

Having thus described my invention, I claim—

1. The combination of the transverse shafts arranged in suitable bearings on trucks, brake- 10 shoes B B on the opposite ends of the shafts, the radial arms B', attached to the shafts, longitudinal operating-rods C, extending the entire length of the car and pivotally attached to all of the arms B', whereby when the said 15 rod is turned longitudinally all of the brake-shoes on the car will be operated to pass against the wheels, and hooks C' C' on the ends of the rod, whereby the same may be connected automatically with the corresponding hooks 20 on the connecting-rods of the adjoining cars, all arranged substantially as specified.

2. The combination, with the coupling-hooks A A, of the brake-shoes B B, secured on the ends of the shaft extending transversely across 25 the car, arms B', brake-rod C, connected to the said rod, and coupling-hooks C' C' on the ends of the said rod, the shanks of which are adapted to slide in keepers on the under sides of the said links A A in such a position that when 30 the said links couple the hooks C' will couple, and when the said links uncouple the hooks will uncouple, substantially as specified.

3. The combination, with the brake-shoes

and the brake-rod C, connected, substantially as described, with the said shoes, whereby 35 when the said rod is drawn upon the shoes are operated, of the drum E, having ratchet or gear wheels on the ends, gear-wheels *f*, to mesh with the latter, gear-wheels *g*, to mesh with the wheels *f*, crank-arms to rotate the 40 gear-wheels *g*, pulleys I I under the car, and the chain H, attached to the drum E and passing through the said pulleys, one of which is attached to the front end of the brake-rod, substantially as specified. 45

4. The combination, with the brake-shoes and the brake-rods to operate the same and connected together the entire length of the train, of the operating device having the drum E, having gear-wheels on the ends, shaft F, 50 having the gear-wheels *f* on the ends to mesh with the wheels *e*, and the ratchet-wheel K on the said shaft F, gear-wheels *g*, meshing with the wheels *f*, and having an operating-crank attached thereto, pawl or dog to engage 55 in the said ratchet-wheel K, and the chain H, connected with the said brake-rod and adapted to be wound on the said drum E, substantially as specified.

In testimony that I claim the foregoing as 60 my own I have hereto affixed my signature in presence of two witnesses.

JOHN D. STOVALL.

Witnesses:

T. J. BETTS,
L. N. BYRD.