

(No Model.)

2 Sheets—Sheet 1.

F. K. WILSON & J. F. FETZER.
CAR BRAKE.

No. 507,469.

Patented Oct. 24, 1893.

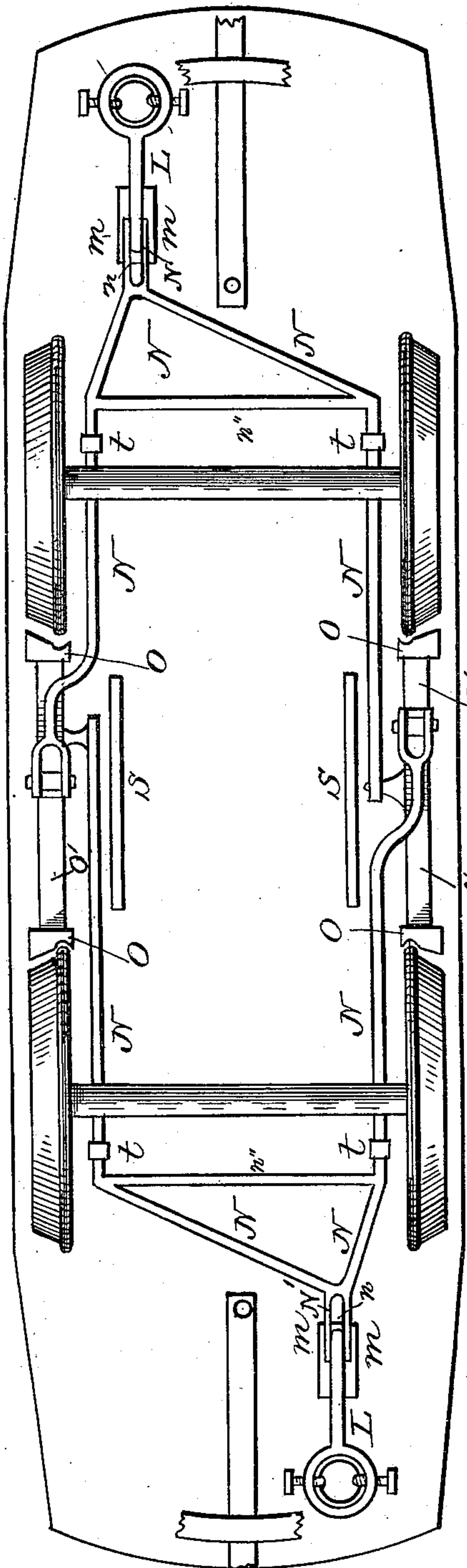


Fig. 1.

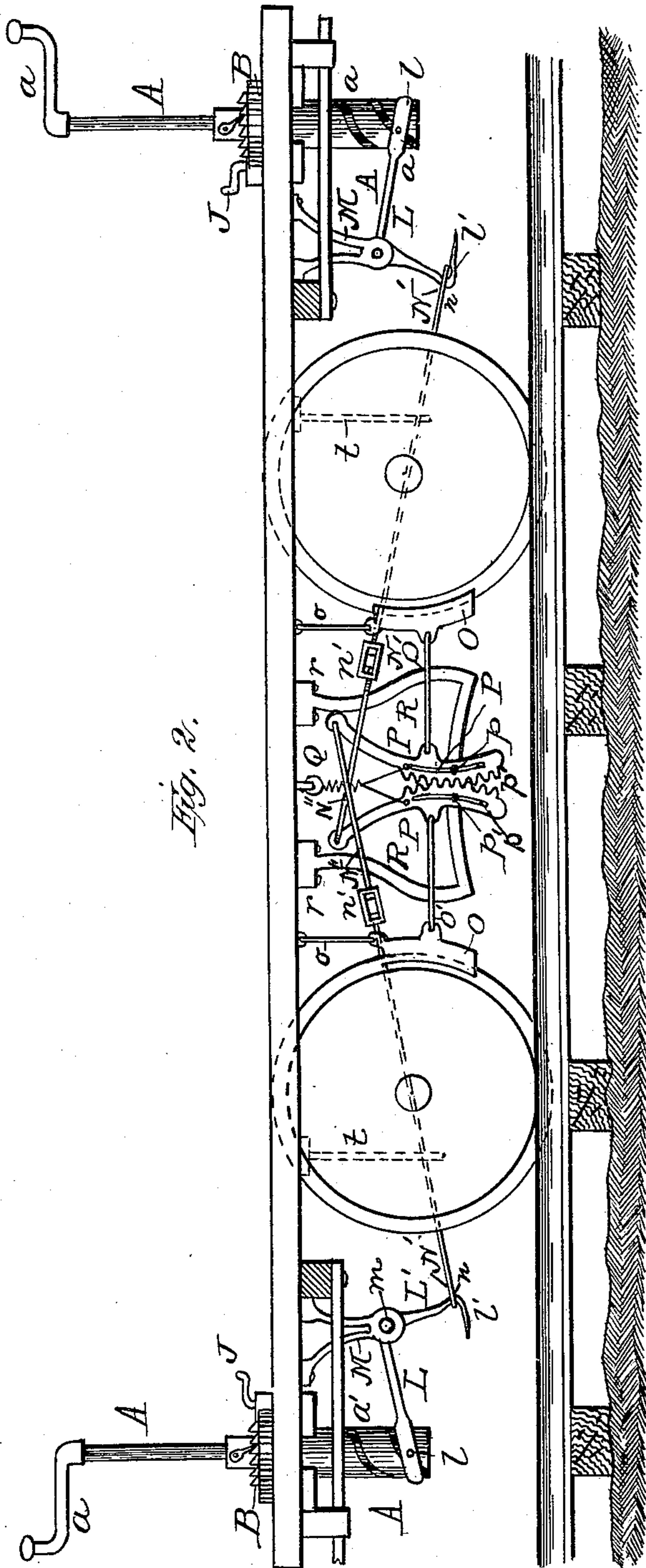


Fig. 2.

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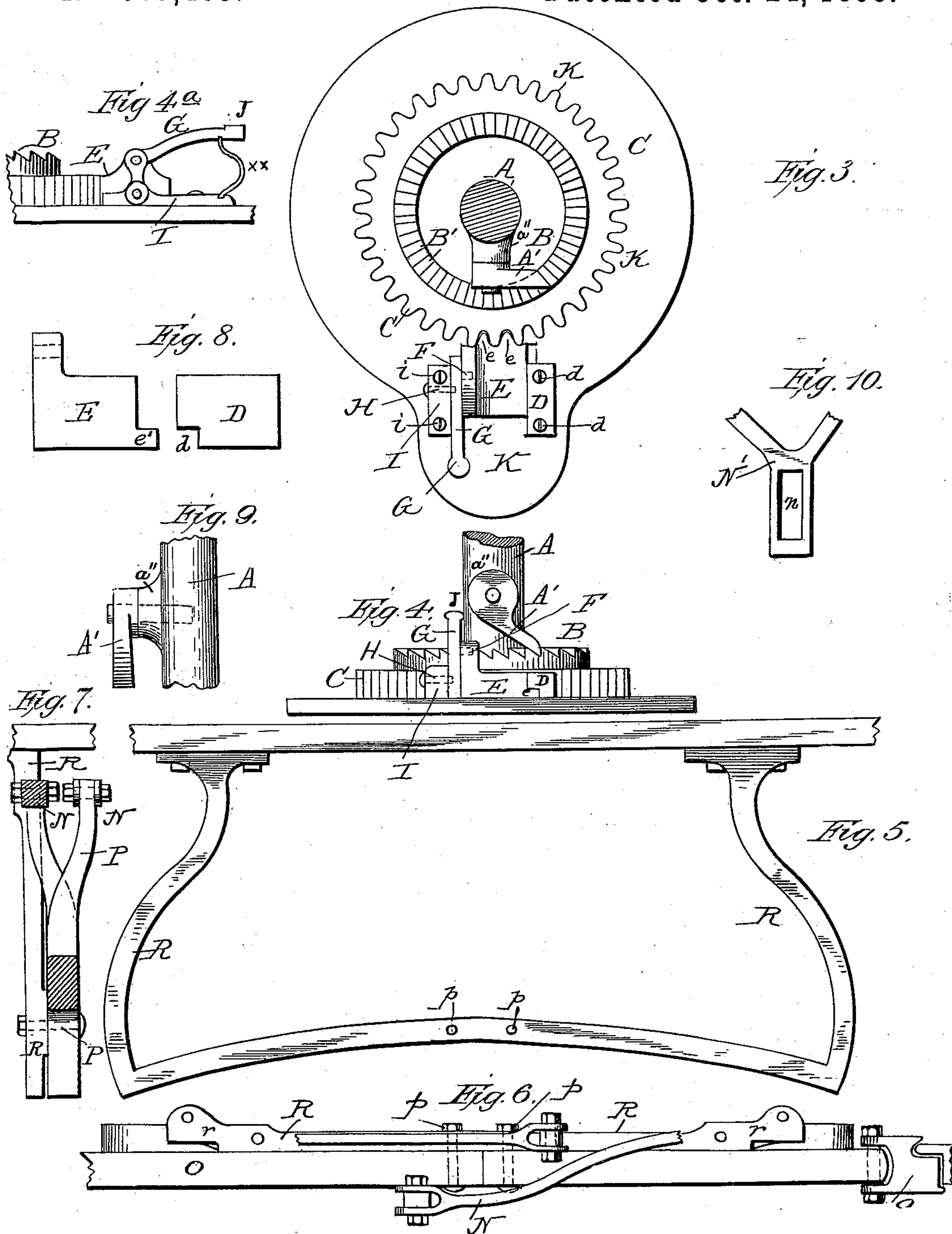
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UNITED STATES PATENT OFFICE.

FRANK. KENNIE WILSON AND JACOB FRANKLIN FETZER, OF THURLOW,
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CAR-BRAKE.

SPECIFICATION forming part of Letters Patent No. 507,469, dated October 24, 1893.

Application filed July 19, 1893. Serial No. 480,878. (No model.)

To all whom it may concern:

Be it known that we, FRANK. KENNIE WILSON and JACOB FRANKLIN FETZER, citizens of the United States, residing at Thurlow, in the county of Delaware and State of Pennsylvania, have invented certain new and useful Improvements in Railway-Car Brakes; and we 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 improvements in railway car brakes which will be hereinafter more particularly described and pointed out.

In the accompanying drawings forming part of this specification: Figure 1 is an under side view of a car with the brakes attached thereto. Fig. 2 is a side elevation of Fig. 1. Figs. 3, 4, 4^a, 5, 6, 7, 8, 9 and 10 are details of the various parts which will be referred to in the description.

A is the vertical shaft having a handle, *a*. There is one at each end of the car. On the shaft, A, is a wheel, B, having on the top ratchet teeth, B', and on its periphery cogs or ratchet teeth, C. On one side of the shaft, A, is a boss, *a''*, on which is a pawl, A', which is to engage the ratchets, B'.

D and I are guide plates secured to the main plate, K, by screws, *d*, *d*, *i*, *i*. The plate, K, is secured to the frame of the car.

E E is a catch sliding plate or holding pawl having cogs or ratchet teeth, *e e*, to correspond with the cogs, C, on the wheel, B.

Fig. 8 represents end views of the block, E, and the guide, D. E has a projecting tongue, *e*, which is held down in the recess, *d*, of the guide, D. The lever side of the block, E, is retained in place by G and connections.

F is a pin on the inside of a lever, G, and fits in a hole in the side of the sliding plate, E.

H is a pin on the opposite side of the lever, G, and is pivoted in the pedestal or guide plate, I.

J is a foot bearing by which the lever, G, can be depressed, and underneath is a spring, *x, x*, which is secured to it and to the plate, I.

The lower part of the shaft, A, beneath the platform has two spiral grooves, *a'*, with steep pitch on opposite sides. Engaging in these grooves, *a'*, is a bell crank lever, L, supported

in a bracket, M, suspended to the under side of the platform; the long end of the lever, L, is bifurcated and the middle part is made to correspond with the lower end of the shaft, A. In each spiral groove, *a' a'*, is a steel pin, *l*, projecting from the concavity of the lever, L, in the form of set-screws, with smooth ends to work in the spiral grooves, *a' a'*, in the shaft, A.

N N, &c., is a frame of steel or iron. The end, N', has a slot, *n*, to clasp the end, L', of the bell crank lever, L. The hook, *l'*, is so extended that the end, N', of the frame has sufficient movement thereon so that it will not become detached, while it is free to move to and fro, when the brake is operated from the opposite end. The frame, N, is located on each side of the car bed, and secured to the bottom of the car between the wheels and the cross-bar, *n''*, braces the frame at the end. There are four brake shoes, O, two to each frame, N; the shoes are suspended from the bottom of the car by the links, *o*, shown in Fig. 2. To each shoe, O, is pivoted a connecting rod, O', on the outer end of which is a curved rack bar, P, having cogs meshing with the cogs on the opposite corresponding curved rack, P, connected with the other shoe, O. The long arm of these curved rack bars, P, is connected to the rod, N'', which is attached to the frame, N, by a turn buckle, *n'*, for the proper adjustment of the tension of the rod, and curved, as shown in Figs. 6 and 7 in detail, to pass each other. A spiral spring, Q, is attached, at the upper end, to the car bed, and is connected at the other end to each of the rack bars, P, to pull them up, when the brakeshoe is released. These rack bars, P, P, are pivoted on a bracket frame, R, shown in detail, enlarged, in Fig. 5, by means of pins, *p p*, working in slots, *p' p'*. To support the frame, N, there are two straps, S S, fastened to the inside of the frame and to the bed of the car, serving as keepers for the connecting rods and steadying the same, and at each corner are suspension rods, *t*, to hold it up. There are no cross beams for the brakeshoes. Consequently the bottom of the car is clear between the frames, N N, for the placing of storage batteries, motors, &c.

We claim—

1. The brake shaft, A, having thereon the double ratchet wheel, B, and the pawl, A', in combination with the stop pawl, E, substantially as and for the purpose described.
- 5 2. The brake shaft, A, with its pawl, A', double ratchet wheel, B, its lower end having two spiral grooves, *a' a'*, in combination with the stop pawl, E, guides, D and I, foot lever, G, having a projecting pin, F, inserted in the
- 10 pawl, E, and pivot, H, the bifurcated end of the bell crank lever, L, and the projecting end, N', of the frame, N, substantially as and for the purpose described.
- 15 3. The frames, N N, supported on each side of the car and connected by the turn buckles, *n' n'*, to the rack bars, P P, which bars are pivoted to and supported by the brackets, R

R, in combination with the rods, O' O', and the brake shoes, O O, substantially as and for the purpose described. 20

4. The combination of the brake shaft, A, having the spiral grooves, *a a*, bell crank lever, L, frame, N, turn buckle, *n'*, connecting rod, N'', rack bar, P, connecting rod, O', and shoe, O, substantially as and for the purpose 25 described.

In testimony whereof we affix our signatures in presence of two witnesses.

FRANK. KENNIE WILSON.
JACOB FRANKLIN FETZER.

Witnesses:

AMOS H. FERRY,
J. M. ALLEN.