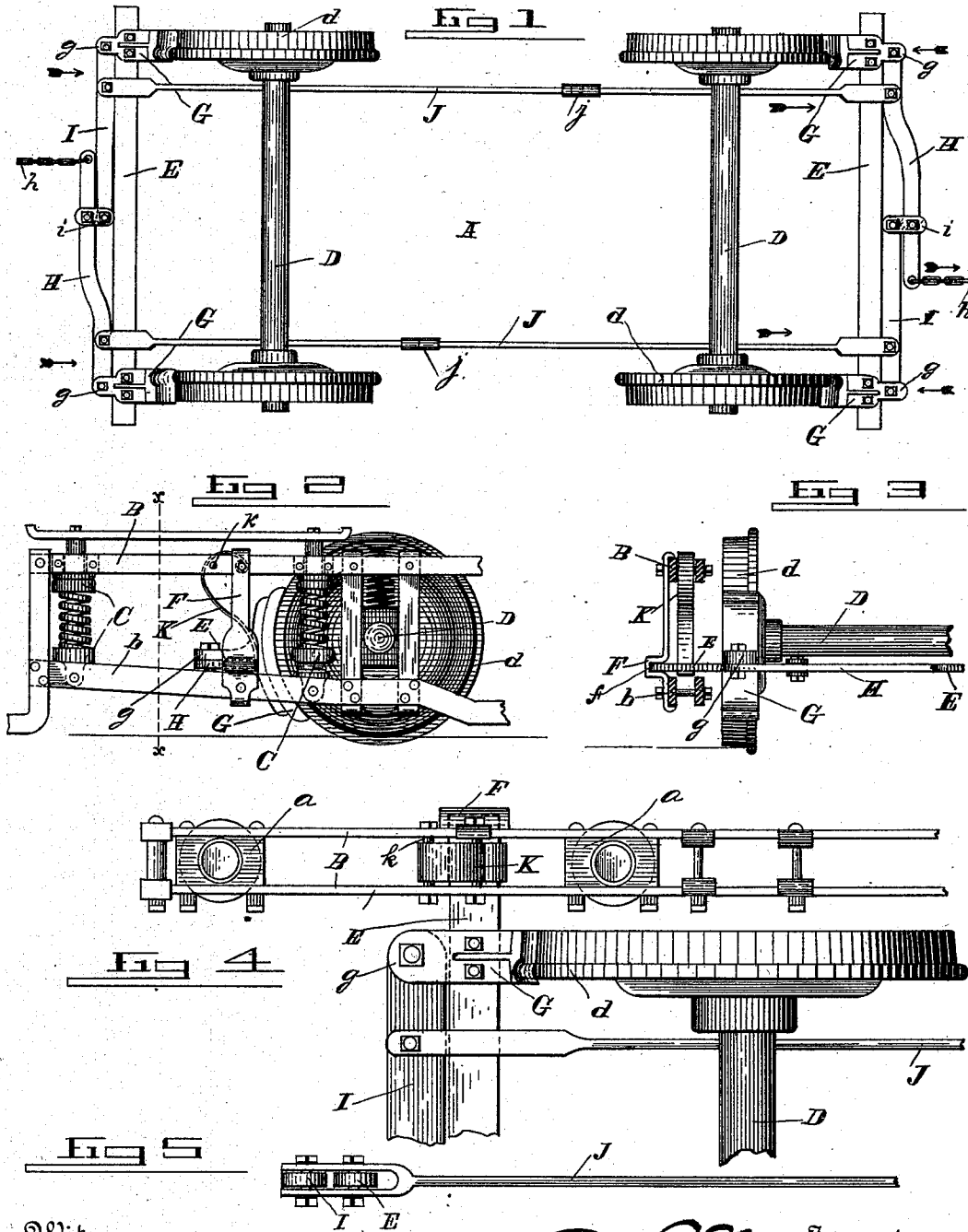


(No Model.)

B. F. MANIER.
CAR BRAKE.

No. 412,640.

Patented Oct. 8, 1889.



Witnesses

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UNITED STATES PATENT OFFICE.

BENJAMIN F. MANIER, OF TROY, NEW YORK.

CAR-BRAKE.

SPECIFICATION forming part of Letters Patent No. 412,640, dated October 8, 1889.

Application filed July 31, 1889. Serial No. 319,248. (No model.)

To all whom it may concern:

Be it known that I, BENJAMIN F. MANIER, of Troy, in the county of Rensselaer and State of New York, have invented certain new and useful Improvements in Car-Brakes; and I 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 part of this specification, in which—

Figure 1 is a plan view of my improved car-truck brake for four-wheeled trucks. Fig. 2 is a detail side view of one end of the truck. Fig. 3 is a transverse sectional view through line *x x*, Fig. 2, looking toward the wheels. Figs. 4 and 5 are detail views.

This invention is an improvement in brake mechanism for four-wheeled trucks, and its object is to apply the brakes to the truck-wheels simultaneously and with equal power from either end of the car; and to this end the invention consists in the novel construction and combination of parts, as is hereinafter clearly set forth and claimed.

Referring to the drawings by letters, A designates a four-wheeled truck, the frame of which is preferably composed of compound upper and lower side beams *B b*, each of which is made up of two flat metal bars set vertically edgewise and separated by interposed blocks *a a*, but firmly united by bolts, and these two beams are connected by uprights *C C* and by transverse beams, as clearly shown and described in my application for Letters Patent on trucks, filed June 21, 1889, and serially numbered 315,075, and which is not herein claimed, as the brake mechanism may be applied to other forms of truck-frames.

D D designate the axles, and *d d* the wheels.

E E designate brake-bars lying transversely of the frame and exterior to the wheels, their ends being supported by hangers *F F*, secured to bars *B B*, as shown, and having horizontal grooves *f f* in them for the reception of the ends of the bars to permit lateral movement thereof.

G G designate the brake-shoe castings bolted to the opposite ends of the bars *E E*, and adapted to bind against the peripheries of wheels *d d* when the bars are moved in-

ward. These castings have outwardly-projecting perforated ears *g g* extending beyond the outer edges of bars *E E*.

H and *I* designate pairs of brake-levers at each end of the truck, and respectively pivoted at one end to the ears *g* of their respective brake-shoes *G G*. Levers *I I* are about half the length of bars *E*, and levers *H* are somewhat longer than levers *I*. These levers lie in the same horizontal plane as their adjoining brake-bar *E*, to which they are connected, and they are pivotally connected at points opposite the centers of bars *E* by shackles or links *i*, as shown. The projecting end of each lever *H* is connected by a chain *h* to the brake-operating shaft, (not shown,) by which strain can be put on the chain and the brakes operated.

J J designate connecting-rods, each made in two sections, connected by a turn-buckle *j j* for adjusting the length thereof. The ends of said rods are horizontally bifurcated and embrace brake-bars *E* and levers *I* and *H*, as shown, being pivotally connected to said levers. These rods lie at opposite sides of the truck at right angles to bars *E E* and close to the brake-shoes at that side of the car, and they are connected to one lever *H* and one lever *I* at opposite ends of the truck, as said levers are oppositely placed at the ends of the truck.

K K designate retracting-springs, which, as shown, are of strap metal and have one end secured between the members of side bars *B*, adjoining each hanger *F*, and are bent downward over pins *k* and below bars *E E*, bearing against the inner edges of the latter and tending to force them outward away from the wheels.

In operation, if the brake-chain be tightened at either end of the car, the inner ends of levers *H* and *I* at that end of the car will be drawn outward, and this movement of the levers, through connecting-rods *J J*, draws the opposite pair of levers *H* and *I* against their brake-bar *E* and applies the brakes to the opposite set of wheels, and simultaneously as the ends of the first-mentioned levers are drawn outward they (the said levers) are fulcrumed at the points of attachment of rods *J J* thereto, and their outer ends attached to

the brake-shoes move inward and force brake-bar E inward and apply the brakes to the adjoining pair of wheels, as indicated by the arrows in Fig. 1. I am thus able from either end of the car to apply the brakes to the four wheels of the truck simultaneously.

It will be observed that while the connections of rods J to the operative levers form the fulcrums thereof the points of attachment of these operative levers to the brake-shoes or brake-bar form the fulcrum by which the power for applying the opposite set of brakes is derived. When the brake-chain is released, the springs K K throw the bars away from the wheels.

Having thus described my invention, what I claim as new is—

1. The combination, with a four-wheeled truck, of a pair of brake-bars, the brake-shoes thereon, the pairs of brake-levers respectively pivotally connected at their outer ends to the brake-bars and to each other at their inner ends, and the pair of rods pivotally connecting one lever of each pair with one lever of the opposite pair, substantially as and for the purpose described.

2. The combination of a four-wheeled truck-frame, the laterally-movable brake-bars mounted transversely in the frame adjoining each pair of wheels and carrying brake-shoes,

substantially as described, with the pairs of brake-levers pivotally connected to the ends of each brake-bar, the link-connection between the levers of each pair, and the brake-chain for operating said levers, and the pair of connecting-rods attached to one lever of each pair, and the retracting-springs, all substantially as specified.

3. The combination of the truck-frame, the grooved hangers thereon, and the brake-bars resting in the grooves of said hangers opposite each pair of wheels, and the retracting-springs engaging said bars, and the brake-shoes on said bars having rearwardly-projecting perforated ears, with the pairs of brake-levers pivotally connected to the ears of the brake-shoes and to each other, and the brake-chain for operating said levers, and the connecting-rods pivotally connected to the opposite levers of each pair near the pivoted outer ends thereof, all substantially as and for the purpose set forth.

In testimony that I claim the foregoing as my own I affix my signature in presence of two witnesses.

BENJ. F. MANIER.

Witnesses:

E. A. STANLEY,
JOHN TAYLOR.