J. and W. Kitchen and S. Samuels.—Improved Railway Brake.

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FIG. 1.

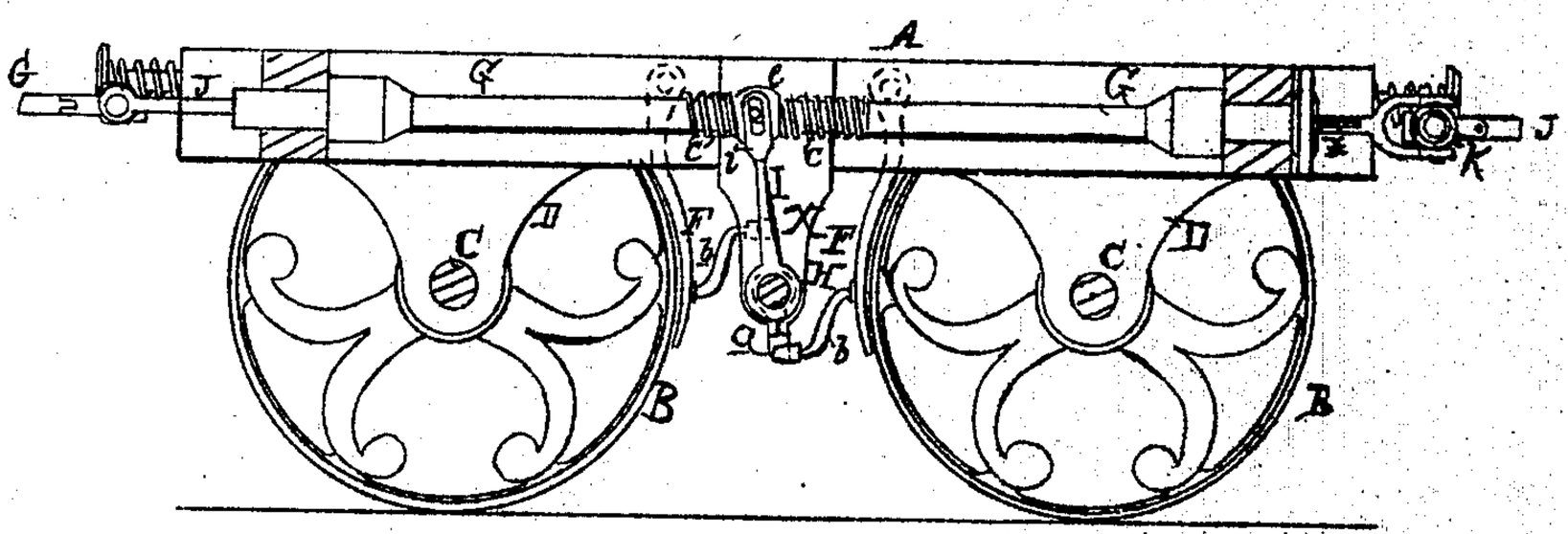


FIG. 2.

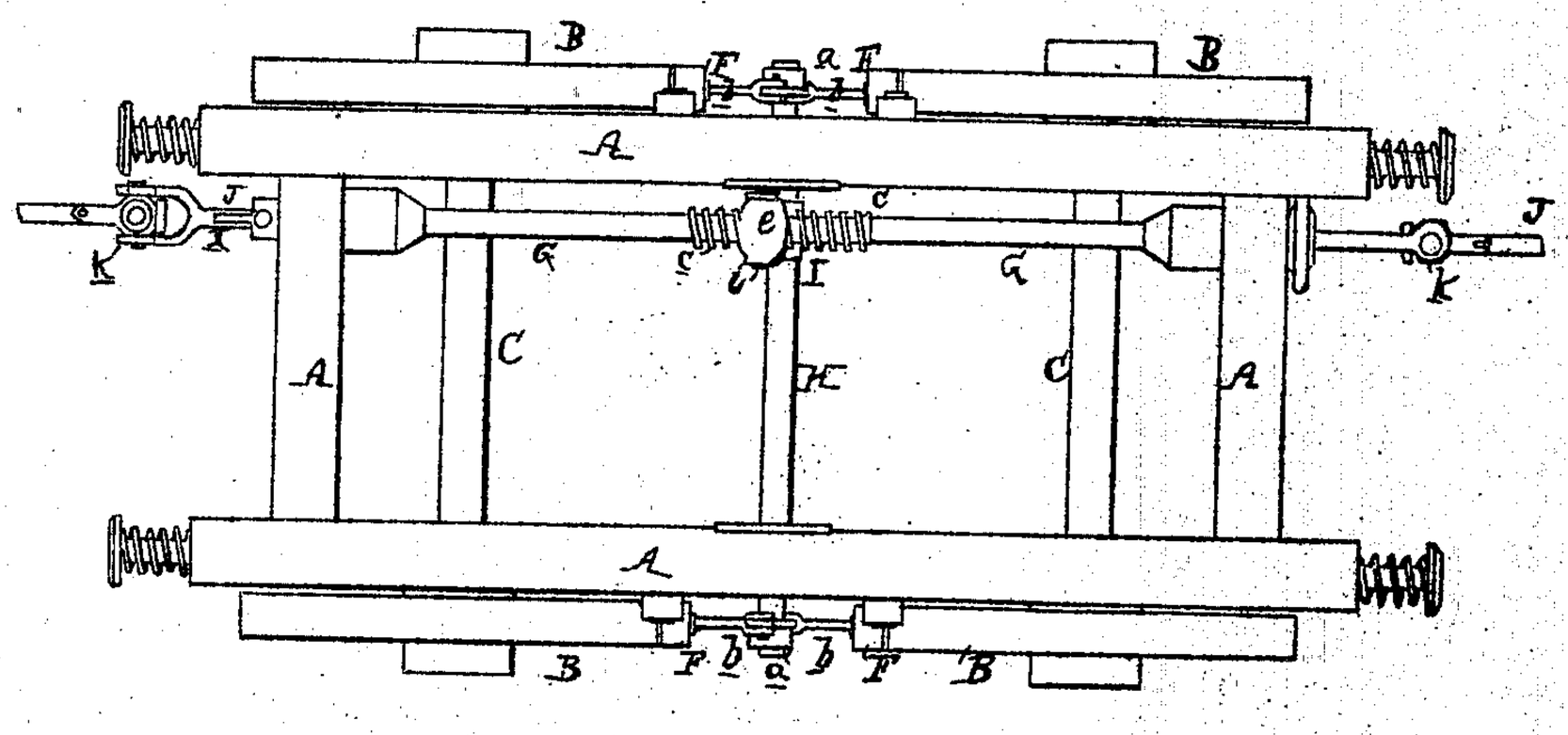
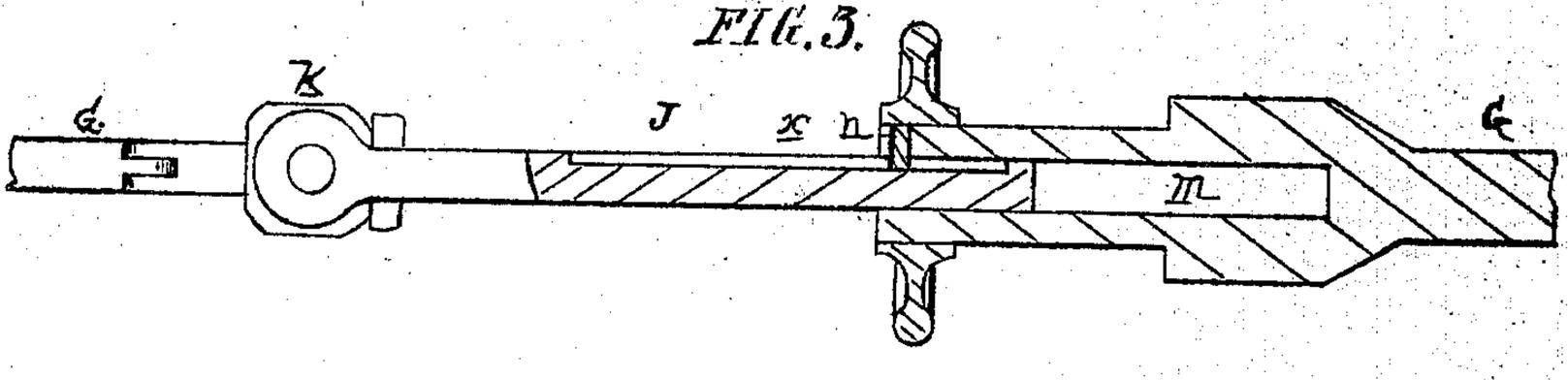


FIG. 3.



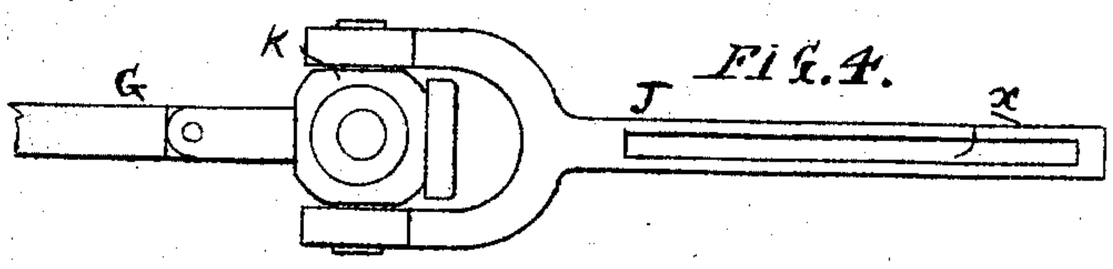


FIG. 4.

Witnesses { Wm Albert Steel.
John Parker

J. & W. Kitchen and
S. Samuels
By their Atty
H. Howson

United States Patent Office.

JOHNSON KITCHEN, WILLIAM KITCHEN, AND SAMUEL SAMUELS, OF ACCRINGTON, ENGLAND.

Letters Patent No. 71,392, *dated November* 26, 1867.

IMPROVED RAILWAY-CAR BRAKE.

The Schedule referred to in these Letters Patent and making part of the same.

TO ALL WHOM IT MAY CONCERN:

Be it known that we, J. KITCHEN, W. KITCHEN, and S. SAMUELS, all of Accrington, Lancaster county, England, have invented an Improved Railway-Brake; and we do hereby declare the following to be a full, clear, and exact description of the same.

Our invention consists of a screw-shaft, which turns in bearings secured to the frame of a car or track, and a nut, which is connected by certain arms and levers, fully described hereafter, to the usual brakes, so that the latter can be brought to bear against or can be moved away from the wheels by operating the said shaft.

In order to enable others skilled in the art to make and use our invention, we will now proceed to describe its construction and operation, reference being had to the accompanying drawing, which forms a part of this specification, and in which—

Figure 1 is a sectional elevation of part of a railway-car or truck with our improved brake applied to the same.

Figure 2, a plan view of fig. 1.

Figure 3, a detached view, partly in section, drawn to an enlarged scale; and

Figure 4, a plan view of part of fig. 3.

A is the frame of a car or truck, the wheels, B B, of which are secured to axles, C C, turning in hangers, D D, attached to the frame, the brakes F F being suspended in the usual manner opposite the treads of the wheels. In hangers, X, secured to the frame A, turns a shaft, H, to the opposite ends of which are secured rock-arms, *a a*, and to each arm are jointed rods, *b b*, each of which is connected at its opposite end to one of the brakes F. In bearings on the frame A turns a shaft, G, at the centre part of which is a screw, *c*, and to the latter is adapted a nut, *e*, pins *i i* at the sides of which project into slots in the forked end of an arm, I, secured to the shaft H. To one end of the shaft G is coupled, by a universal joint, *k*, a square rod or bar, J, in the upper edge of which is a groove, *x*, and in the opposite end of the shaft is an opening, *m*, for the reception of a rod, (similar to the rod J,) secured to the shaft of another car, a pin, *n*, projecting from the shaft G into the groove *x*. When a rotary motion is imparted to the shaft G the nut *e* is caused to traverse the screw *c*, the shaft H is turned, and the brakes are moved to or from the wheels. When a number of cars are coupled together, forming a train, the rod J of the shaft of one car will project into the opening *m* of the shaft of the adjacent car, as shown in fig. 3, so that a rotary motion imparted to one shaft will be simultaneously communicated to all the others, and it will be seen that, in consequence of the manner in which the shafts are coupled, they can be turned together as readily when the cars are on a curved part of the track as when they are in a line with each other, while the usual slight movements of the cars to and from each other in no manner interfere with the turning of the shafts and operation of the brakes.

The shafts may be operated by brakesmen stationed on the cars or trucks, or they may be operated by power derived from the locomotive engine or from supplementary steam-cylinders placed on the engine or tender.

We claim as our invention, and desire to secure by Letters Patent—

The screw-shaft G, with its nut *e*, arranged and operating on a car or truck, in combination with the shaft H, its arm I, connected to the nut *e*, and its arms *a a*, connected to the brakes of the car, all as set forth.

In testimony whereof we have hereunto signed our names to this specification in the presence of two subscribing witnesses.

JOHNSON KITCHEN,
WILLIAM KITCHEN,
SAMUEL SAMUELS.

Witnesses:

R. DALRYMPLE,
THOMAS KITCHEN.