

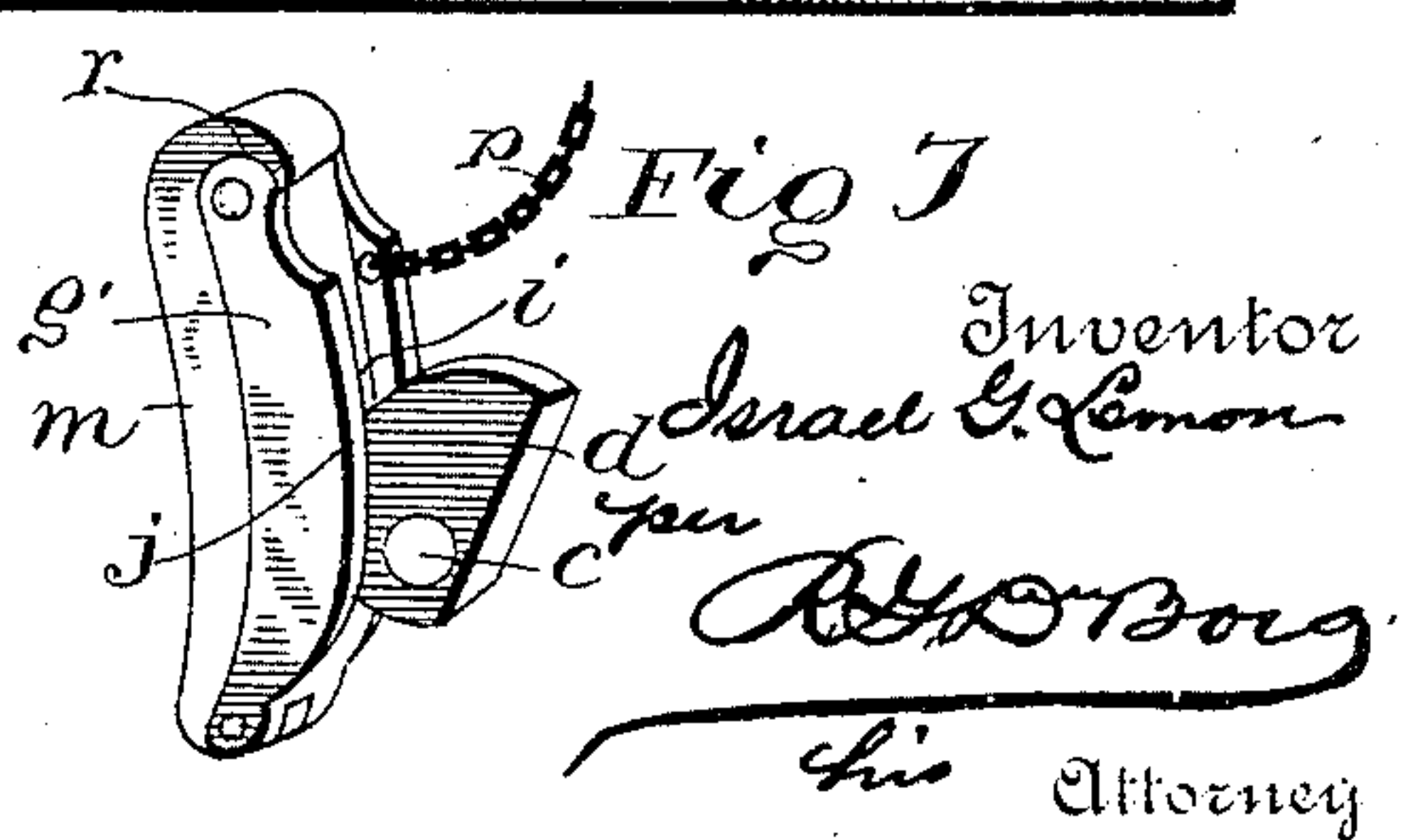
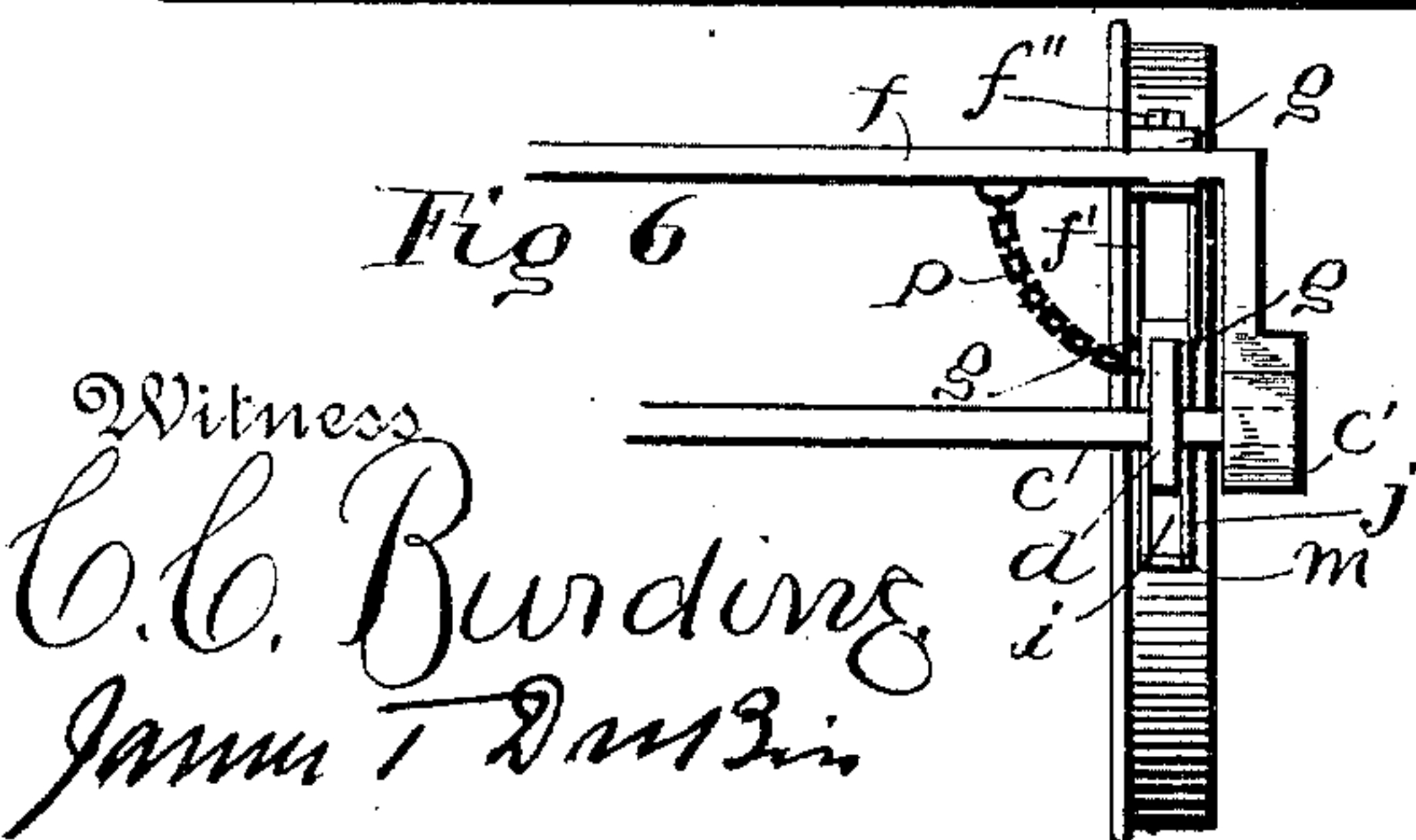
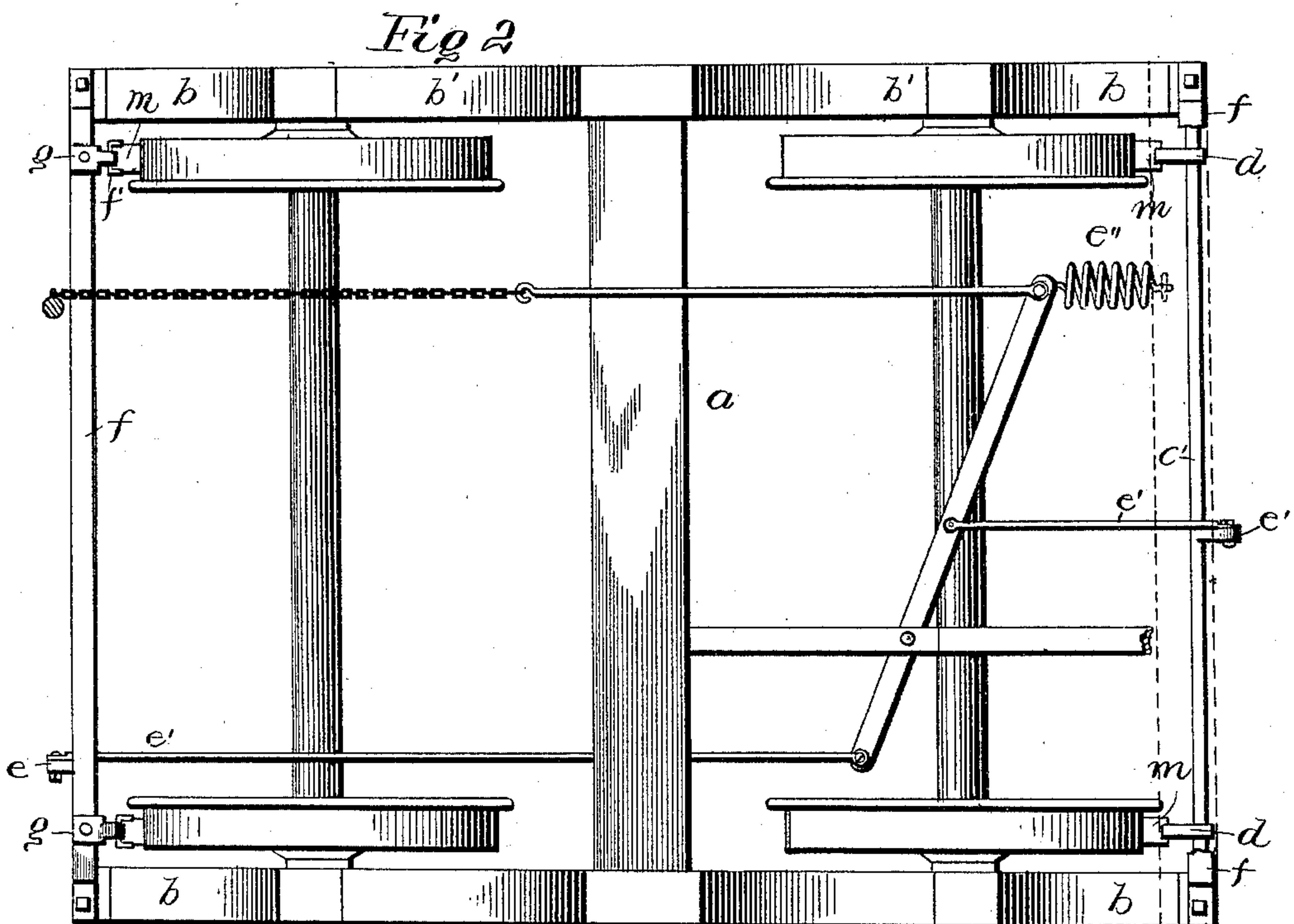
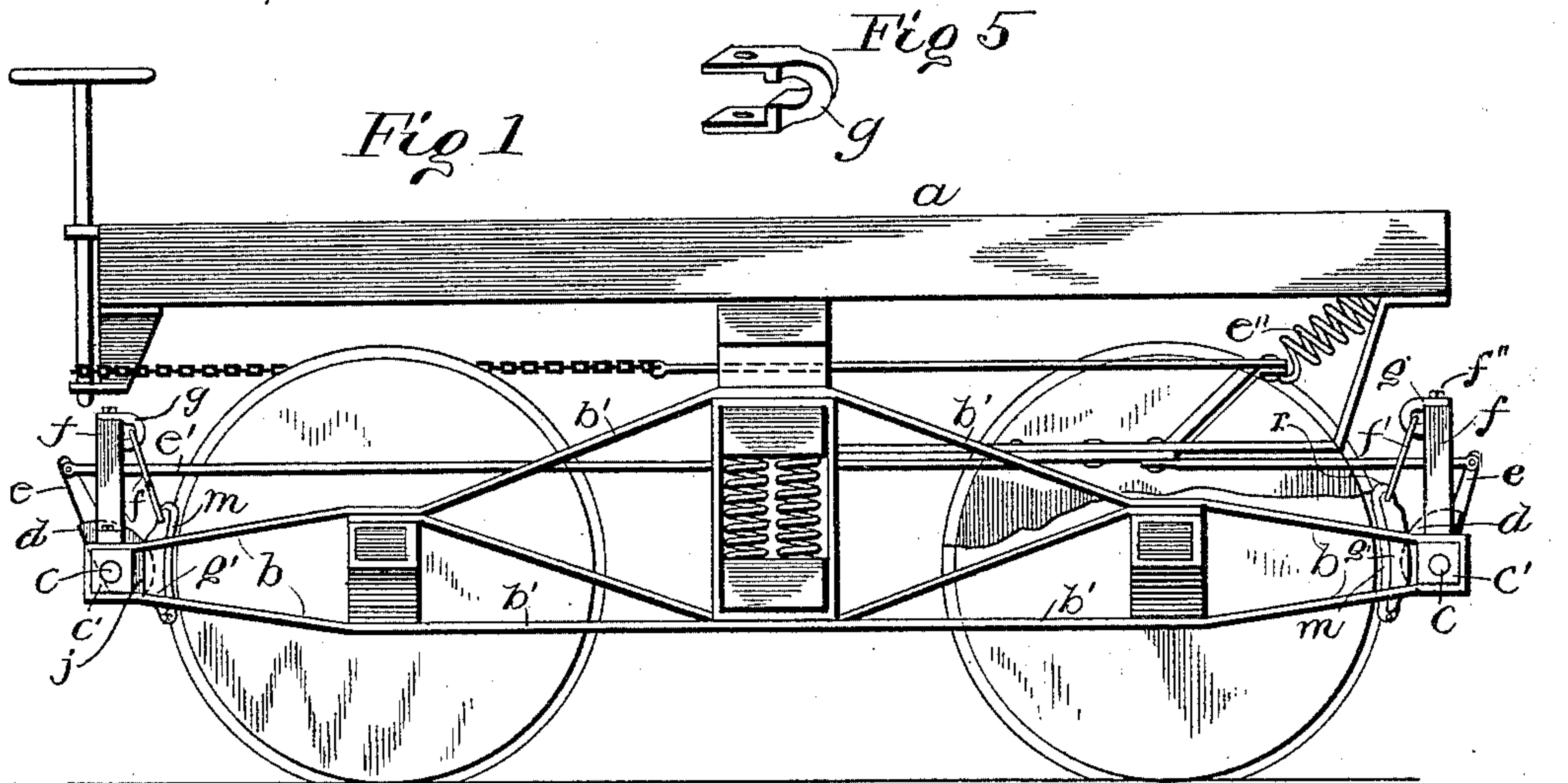
(No Model.)

2 Sheets—Sheet 1.

I. G. LEMON.
CAR BRAKE.

No. 452,885.

Patented May 26, 1891.



Witness
C. C. Burdine
James T. Martin

Inventor
Israel G. Lemon
per
R. H. Borg
his Attorney

(No Model.)

2 Sheets—Sheet 2.

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Fig 3

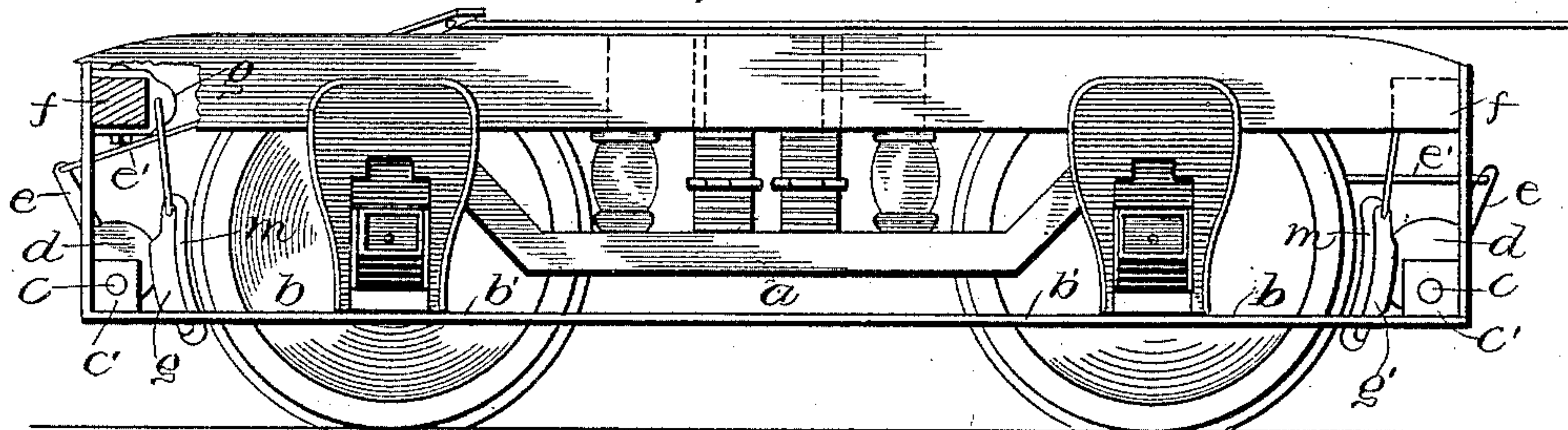
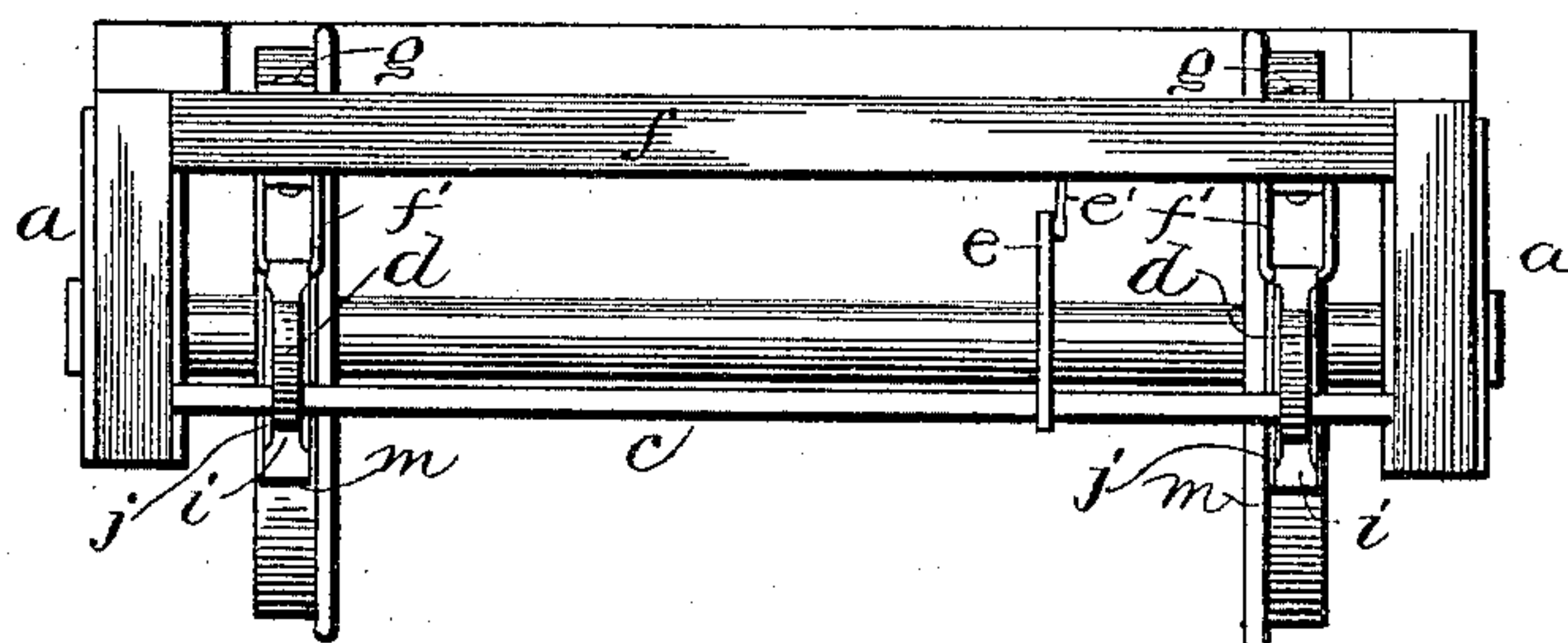


Fig 4



WITNESSES:

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INVENTOR,

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BY

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UNITED STATES PATENT OFFICE.

ISRAEL G. LEMON, OF WAVERLY, NEW YORK.

CAR-BRAKE.

SPECIFICATION forming part of Letters Patent No. 452,885, dated May 26, 1891.

Application filed January 17, 1891. Serial No. 378,079. (No model.)

To all whom it may concern:

Be it known that I, ISRAEL G. LEMON, a citizen of the United States, residing at Waverly, in the county of Tioga and State of New York, have invented certain new and useful Improvements in Car-Brakes; and I 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.

My invention relates to that class of car-brakes in which cams are made to force the shoe against the tread of the wheel; and the object sought to be accomplished is to provide a more simple device which can be applied to ordinary car-trucks with greater facility and at less expense.

A still further object of my invention is to provide means for preventing accidents from falling brake-shoes and brake-beams.

With this purpose in view my invention consists in the peculiar arrangement of parts more fully described hereinafter, and pointed out in the claims.

In the accompanying drawings, Figure 1 represents a side elevation of my device as applied to a freight-car truck; Fig. 2, a top view of the same. Fig. 3 shows my device applied to a passenger-truck; Fig. 4, a rear view; and Figs. 5, 6, and 7, views of details.

The reference-letter *a* represents any ordinary car-truck, from the boxes of which extend horizontally arms *b*, formed by extending the flat bars *b'* of the truck. These bars *b'* converge as they extend away from the wheel-axes, and a horizontal rock-shaft *c* is journaled in boxes *c'* at their outer ends. Cams *d* are fixed to this shaft, and their larger portions are located and oscillate above the axis of the rock-shaft, and the latter is actuated by a lever *e*, fixed thereto, and this lever is in turn moved by a rod *e'*, connected with the usual brake mechanism, which mechanism is provided with a retracting-spring *e''*. Just above the rock-shaft is located a rigid bar *f*, parallel with the former, and from which the brake-shoe *m* is suspended. The means for suspending each of the shoes consists of a link *f'*, which passes through a clip *g* and the shoe-stock *g'*. The clip *g* is fastened to the bar *f* by a bolt *f''*, and the shoe is so hung as to gravitate away from the wheel. As a

precaution against the derailment of the wheels by the falling of worn-out shoes, the latter are provided with a hooked upper end *r*, which hooks over the top of the shoe-stock *g'*, so that when the shoe becomes worn in two instead of dropping on the rail it will hang by the hook until a new one is substituted; and as an additional precaution I provide each shoe-stock with a chain *p*, which is attached at a point one side of the wheel to draw the shoe away from the track in case it should from any cause become broken loose.

The shoe-stock is provided with a longitudinal groove *i*, which receives the cams. The flanges *j* of this groove fit snugly against the sides of the cam and prevent the shoe from lateral vibration. The link *f'* can be readily removed by withdrawing the clip-bolt *f''*.

When thus constructed, my device operates as follows: When power is applied to the lever *e* through the usual mechanism, the free end of the lever is drawn toward the wheel, thereby rocking the shaft *c* and bringing the cams against the shoe so strongly that a powerful brake is effected. The moment the brake mechanism is relaxed the shoe will gravitate away from and clear of the wheel, so that no idle friction ensues.

The peculiar advantages of my invention over the cam mechanism designed to be applied to the top of the wheel, as shown in earlier patents, are its freedom of action, as no oscillation of the body of the car or truck can in any possible way bring the floor-beams of the car to interfere with the mechanism of this device; and by having the cams and their immediate parts located off the front and rear of the wheels or trucks they are more accessible, and can be connected with any ordinary brake-actuating mechanism, so that little expense is necessary, a still further advantage being that the dangling brake-beam is dispensed with and rigid parts substituted, making the parts less liable to get out of order and to need repairs or cause accidents; and, further, my improvements can be applied to all of the wheels of a freight-car, and they can be operated by the usual hand-brake mechanism, as shown, or by an air-pump, or both these means can be used and operated independently of each other.

Having thus described my invention, what

I claim as new, and desire to secure by Letters Patent, is—

1. In a brake for car-trucks, a rock-shaft provided with cams located opposite the front and rear of the wheels, in combination with brake-shoes provided with stocks having flanges adapted to engage the side of the cams to prevent lateral vibration, in the manner and for the purpose substantially as described.

2. In a brake for car-trucks, a rock-shaft provided with cams located opposite the front or rear of the wheels, in combination with shoes actuated by the cams, in the manner and for the purpose described.

3. In a brake for car-trucks, a rock-shaft provided with cams located opposite the front or rear of the wheels, in combination with a bar located above the rock-shaft, and brake-shoes suspended from said bar, in the manner and for the purpose substantially as described.

4. In a brake for car-trucks, a brake-shoe and stock actuated by cams operating be-

tween flanges on the shoe-stock to prevent lateral vibration, in the manner and for the purpose substantially as described.

5. In a brake for car-trucks, the combination of supporting-arms formed by extending the flat bars of the trucks converging in a freight-car truck to a proper point for the support of the journal-box, and the rigid bar from which the brake-shoes are suspended, rock-shafts provided with cams located opposite the front and rear of the wheels, and brake-shoes provided with stocks having flanges adapted to engage the side of the cams to prevent lateral vibration, in the manner and for the purpose substantially as described.

In testimony whereof I affix my signature in presence of two witnesses.

ISRAEL G. LEMON.

Witnesses:

A. K. GORE,

J. M. SLAWSON.