

No. 696,386.

Patented Mar. 25, 1902.

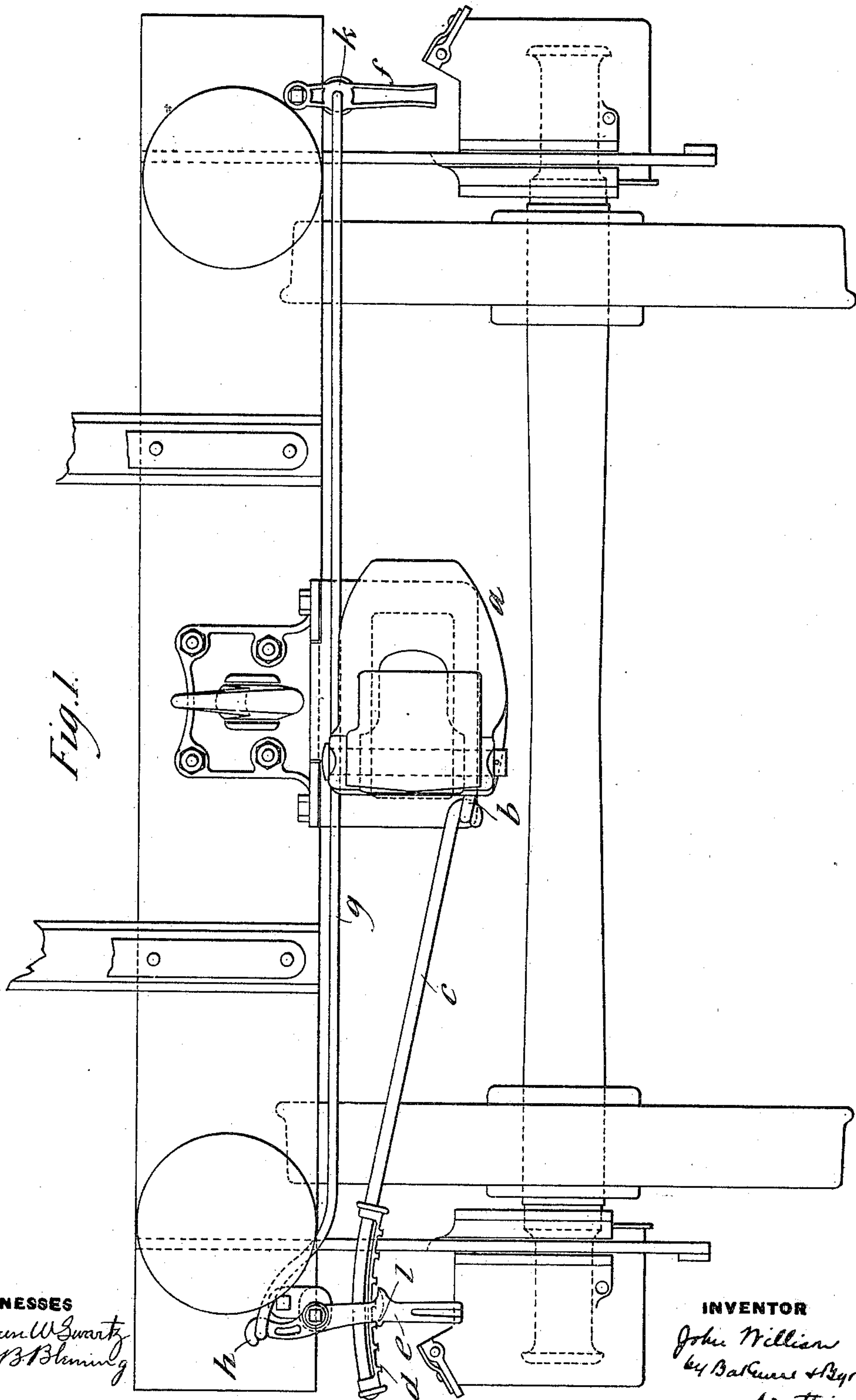
J. WILLISON.

APPLIANCE FOR UNCOUPLING RAILWAY CARS.

(Application filed July 13, 1901.)

(No Model.)

3 Sheets—Sheet 1.



WITNESSES
Warren W. Swartz
Geo B. Blumling

INVENTOR
John Willison
by Barker & Byrnes
his attys

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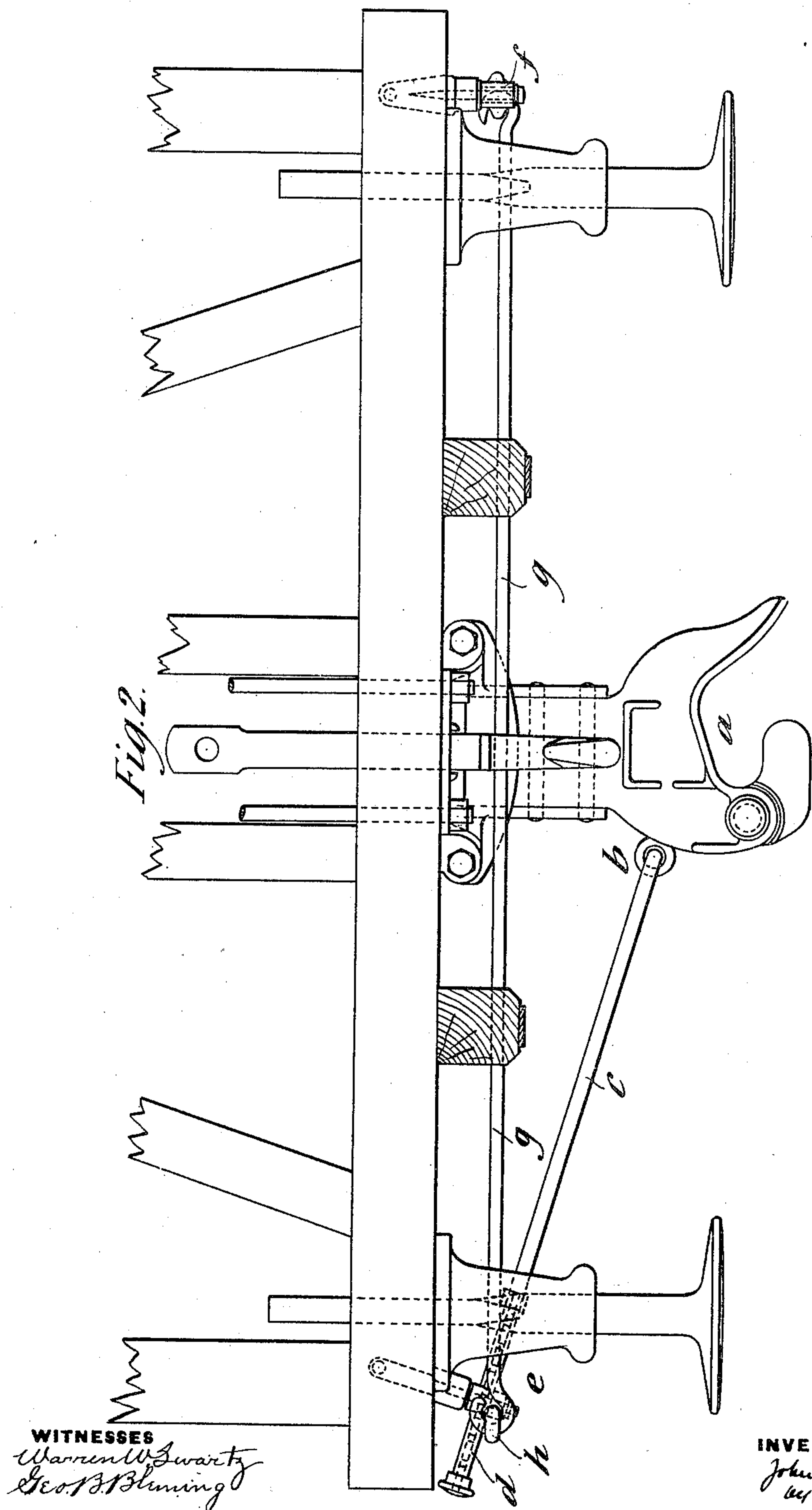
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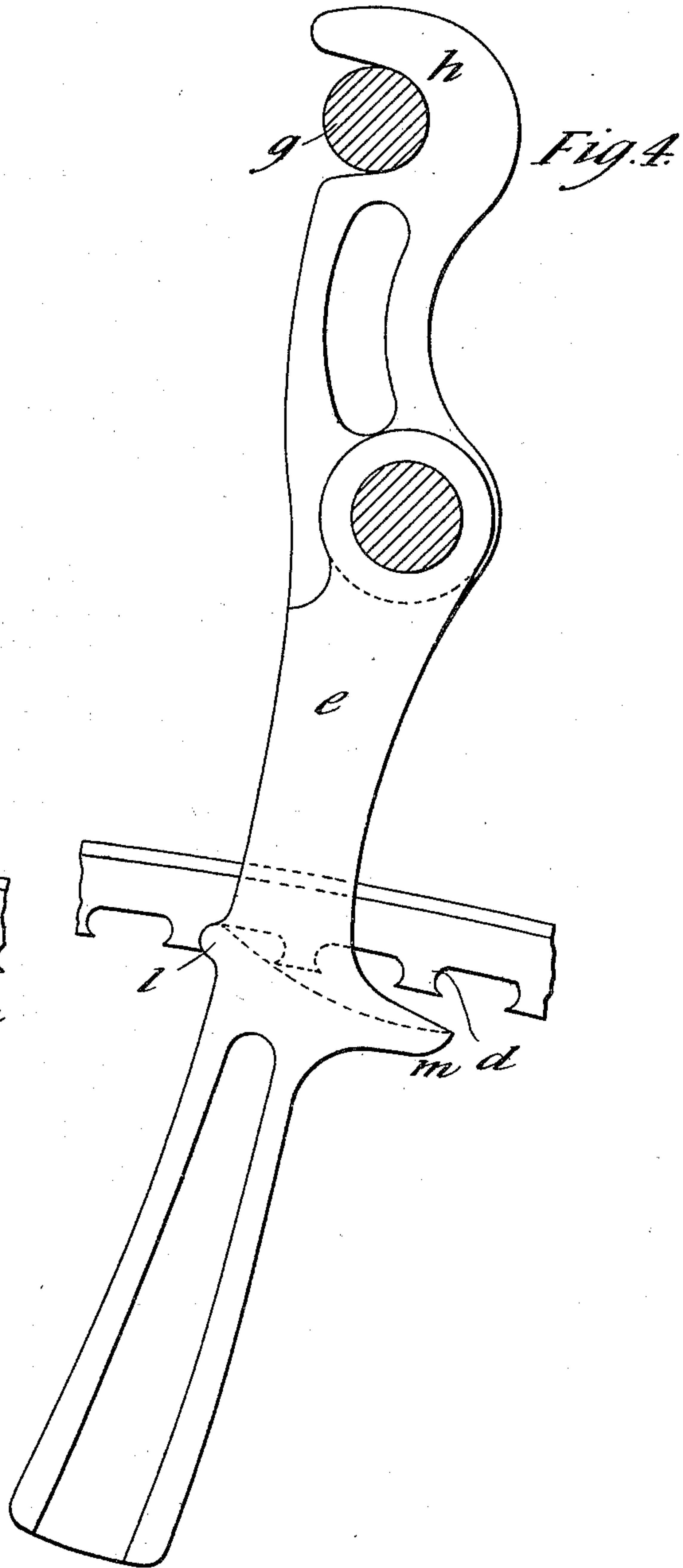
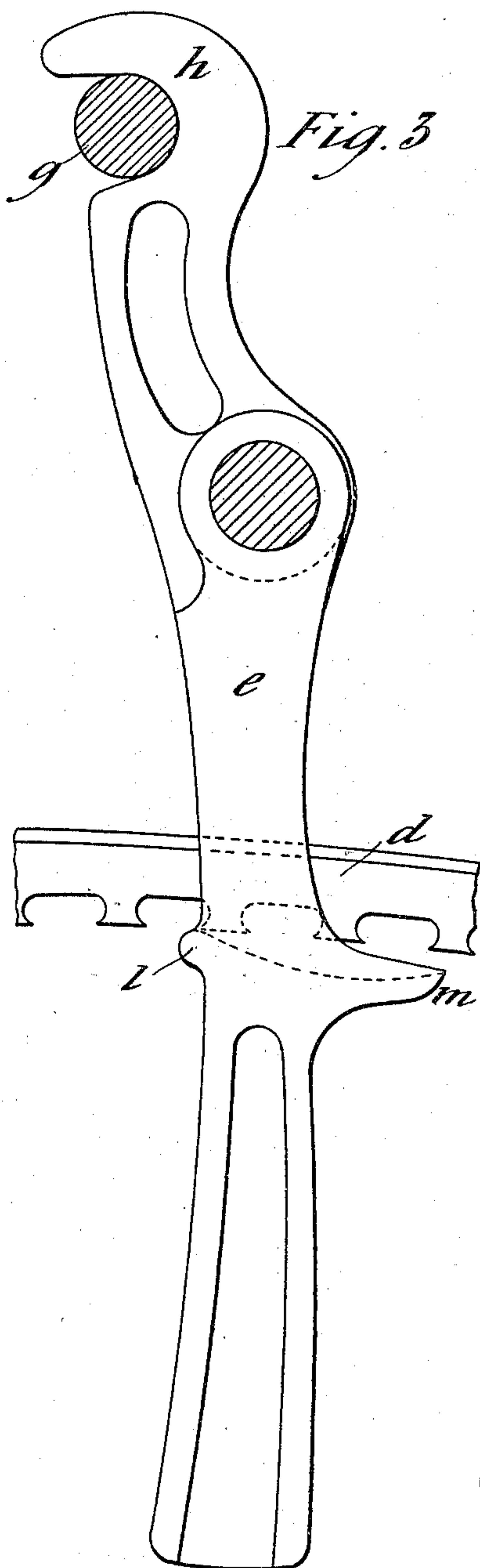
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3 Sheets—Sheet 3.



WITNESSES

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UNITED STATES PATENT OFFICE.

JOHN WILLISON, OF DERBY, ENGLAND, ASSIGNOR TO THE NATIONAL MALLEABLE CASTINGS COMPANY, OF CLEVELAND, OHIO, A CORPORATION OF OHIO.

APPLIANCE FOR UNCOUPLING RAILWAY-CARS.

SPECIFICATION forming part of Letters Patent No. 696,386, dated March 25, 1902.

Application filed July 13, 1901. Serial No. 68,261. (No model.)

To all whom it may concern:

Be it known that I, JOHN WILLISON, pattern-maker, a citizen of England, residing at No. 1 Olney Villas, Clarence road, Derby, in the county of Derby, England, have invented a certain new and useful Appliance for Uncoupling Railway-Cars, (for which I have made application for a patent in Great Britain, No. 23,029, dated December 17, 1900,) of which the following is a specification.

Many automatic couplers for railway-cars are provided with a sliding piece by pulling which outward the lock that holds the knuckle is released, leaving the knuckle free to turn outward, so as to become uncoupled from the knuckle of the next car. My invention relates to means of effecting this uncoupling from either side of the cars without requiring a workman to go between the ends of the cars, as I shall describe, referring to the accompanying drawings.

Figure 1 is an elevation, and Fig. 2 is a plan, of the end of a car-frame, showing an automatic coupler and the appliance according to my invention for uncoupling. Figs. 3 and 4 are side views of the slotted lever and rack in two positions of the lever.

a is the automatic coupler, having its knuckle shown in coupled position.

b is the eye at the end of the sliding piece by which release of the internal lock is effected. To the eye *b* is hooked the end of a rod *c*, the other end of which has fixed on it a rack *d*, with teeth of the shape shown along its under side.

On the end frame of the car at each side just outside the buffers are pivoted two levers *e* and *f*, which are connected by a rod *g*, linking a hook *h* above the pivot of lever *e* to an eye *k* below the pivot of lever *f*, this connection being such that when either lever *e* or *f* is pulled outward the other is also moved outward and when either is pushed inward the other also is pushed inward. The lever *e* has a vertical slot the bottom of which is shaped so as to present a rounded tooth *l* at its outer edge. In this slot lies the rack *d*, the teeth of which rest on the bottom of the slot, free to move to and fro upon it so long as the lever *e* remains upright. Thus while the cars

are coupled the coupler *a* is free to swing laterally or to take positions more or less out of center in either direction as the cars run on curves of the track, the levers *e* and *f* remaining in their vertical position. When it is desired to uncouple the cars, the workman pulls the lever *e* outward, either directly or by pulling *f* outward, thereby bringing the lever into an inclined position, as shown in Fig. 4, in which position the tooth *l* at the edge of the slot engages one or other of the teeth of the rack *d*, and then by a further pull of *e* or *f* the sliding piece having the eye *b* is pulled, releasing the internal lock and leaving the knuckle of the coupler free to open outward. When the lever *e* is returned to its vertical attitude, either by moving it directly or by moving *f* inward, the tooth of the rack *d* is disengaged from the tooth *l*, leaving the rod *c* and the eye *b* free. If then the car meets another, its coupler-knuckle is pushed in by and engaged with that of the other car and becomes automatically locked, the sliding piece of which, *b*, is the eye being moved inward by the action of the knuckle.

Besides the tooth *l* the bottom of the slot has another tooth *m*, which can engage a tooth of the rack *d* when either lever *e* or *f* is pushed inward from its vertical position. This can be done if the lock of the coupler happens to have been released while the knuckle is in its coupling position, so that the knuckle is locked again without having to be moved from its coupled position.

It will be seen that the rod *c* being freely engaged in the slot allows the coupler *a* to move not only laterally, but also longitudinally, in obedience to the drawing or buffing action.

Having thus described the nature of this invention and the best means I know of carrying the same into practical effect, I claim—

1. In combination with the sliding piece by which the lock of an automatic coupler is released, a rod hooked to the said piece and having a rack on its end passed through a slot of a lever which is pivoted on the outer part of the end frame of the car, the said slot having at the edge of its bottom, teeth adapted to engage the rack when the lever is moved

from the vertical position, substantially as described.

2. In combination with the sliding piece by which the lock of an automatic coupler is released, a rod hooked to the said piece and having a rack on its end passed through a slot of a lever which is pivoted on the outer part of the end frame of the car, the said slot having at the edge of its bottom, teeth adapted to engage the rack when the lever is moved from the vertical position, and a second lever pivoted on the outer part of the end frame of the car at its opposite side and connected to the slotted lever by a rod linking an eye below the pivot of the second lever to a hook above the pivot of the slotted lever, substantially as and for the purpose set forth.

3. In uncoupling apparatus, a longitudinally-movable link connected to the knuckle-lock, and a lever pivoted to the car and ar-

ranged to engage and move the link in certain positions, the link moving relatively to the lever when the latter is in its normal position; substantially as described.

4. In uncoupling apparatus, an uncoupling-link, a pair of uncoupling-levers pivoted to opposite sides of the car and connected together, and a detachable connection between the link and one of said levers, said connection being arranged to be made or broken by swinging the levers; substantially as described.

In testimony whereof I have hereunto set my hand in presence of two subscribing witnesses.

JOHN WILLISON.

Witnesses:

J. HEATH,
H. RHODES.