No. 828,549. PATENTED AUG. 14, 1906.

W. R. HOYLE.

RAILWAY APPLIANCE.

APPLICATION FILED MAY 18, 1906.

Fig. 1.

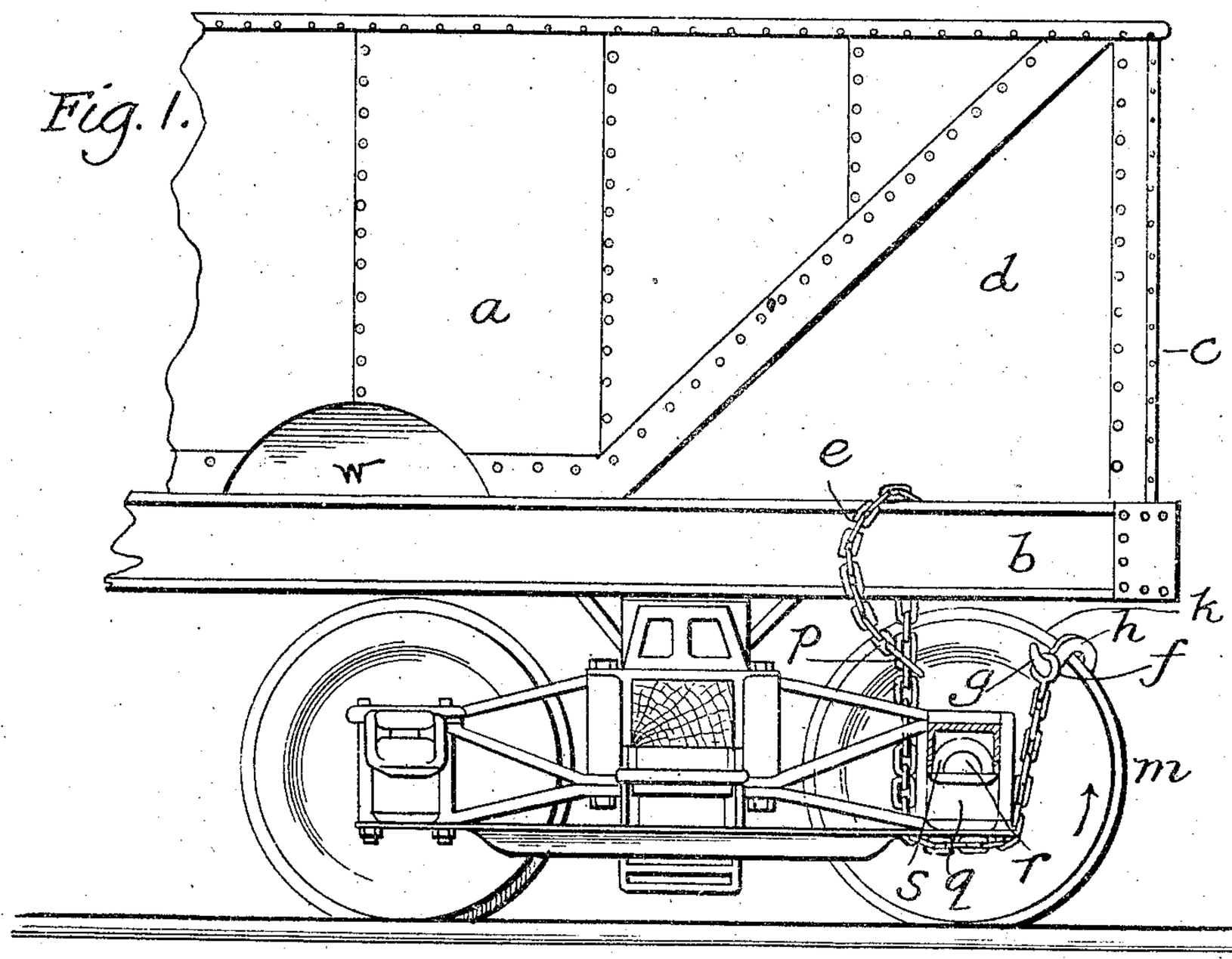


Fig. 2.

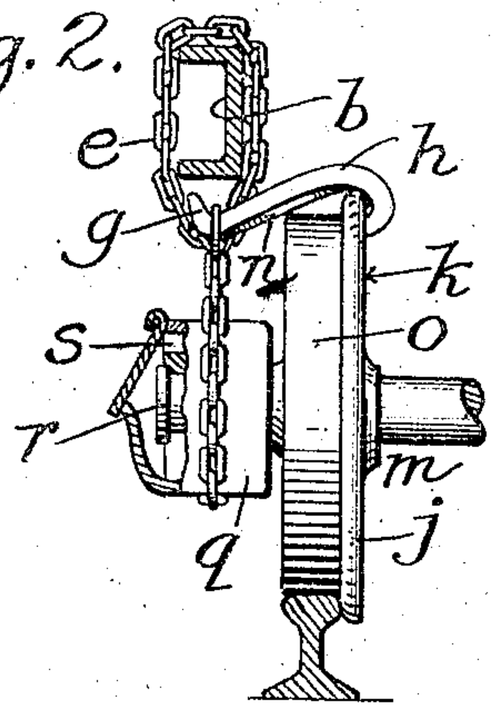
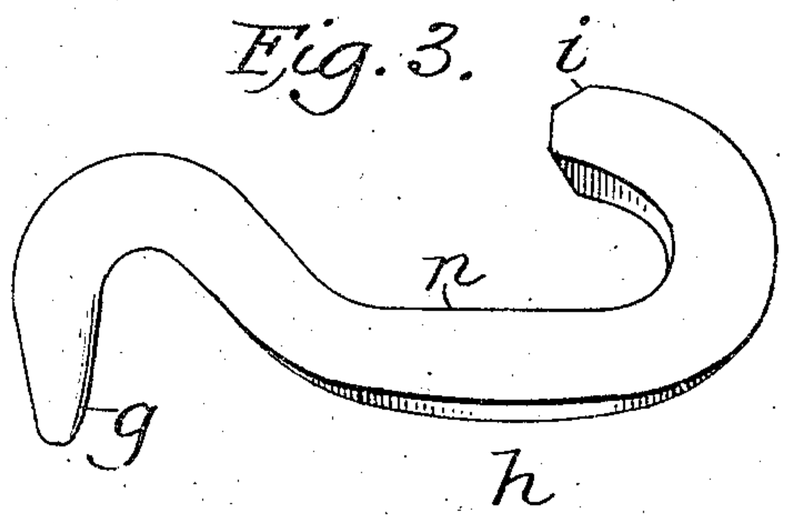


Fig. 3.



WITNESSES

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WELLINGTON R. HOYLE, OF RAY, NORTH DAKOTA, ASSIGNOR OF ONE-HALF TO JOHN DWAN, OF TWO HARBORS, MINNESOTA.

RAILWAY APPLIANCE.

No. 828,549. Specification of Letters Patent. Patented Aug. 14, 1906.

Application filed May 18, 1906. Serial No. 317,512.

To all whom it may concern:

Be it known that I, WELLINGTON R. HOYLE, a citizen of the United States, residing in Ray, in the county of Williams and State of North Dakota, have invented certain new and useful Improvements in Railway Appliances, of which the following is a description, reference being had to the accompanying drawings.

My invention relates to improvements in railway appliances, and particularly to means for raising the journal-box of a railway-car relatively to the car-axle in order to facilitate the removal of the brasses when the latter have become worn or for any other reason have to be removed. In performing this operation use has been heretofore made of what are called "chain-jacks;" but so far as is known to me the chain after passing from the wheel-hook or rim-engaging device to under the journal-box is then wound around the arch-bars of the trucks and there fastened. The result is that a downward pull is exerted upon the wheel and an equally great downward pull is brought upon the arch-bars which carry the journal-box. The net result is that there is a crowding sidewise of the brasses as the chain is tightened by the movement of the wheel, and the brasses are pinched, so that it is impossible to loosen them.

In my improved chain-jack the car-frame is formed with a longitudinal sill around which the grab-hook end of the chain is wound. The arch-bars are thus relieved from the direct application of the pull and relative vertical movement between the journal-box and the brasses is permitted, resulting in the immediate loosening of the brasses to a degree which permits of their ready removal.

Another feature of my invention resides in the wheel-hook provided. This wheel-hook is formed with two open ends or is of a form somewhat resembling the letter S. The chain-engaging end is rounded and pointed (or conical) in shape, while the rim-engaging end of the hook is shaped to firmly engage the wheel over the flange and in the circumferential depression in the face of the wheel near thereto. The portion of the hook between the chain-engaging end and the wheel-engaging end is practically straight. The result of this construction is to give the wheel-hook a solid bearing across the rim of the wheel, a firm grip over the flange of the same, and a freedom of self-adjustment under the stress of the pull not obtained in the wheel-hooks heretofore used in these devices. Moreover, when the pull is released the ring on the end of the chain is readily disengaged from the pointed end of the wheel-hook and the latter is readily disengaged from the wheel itself, so that the whole device is as readily removed as it is adjusted.

In the drawings illustrating the principle of my invention and the best mode now known to me of applying that principle, Figure 1 is a side elevation of the rear part of a coal-car to which my new chain-jack is applied. Fig. 2 is an end view partially in section, and Fig. 3 is a perspective view of the wheel-hook.

The rear end of the hopper *a* slopes from top to bottom toward the front, and projecting rearwardly from the bottom of the hopper is a part *b* of the longitudinal sill upon which the hopper is supported. The front part of the car is correspondingly constructed. Between the vertical support or brace *c*, the sill *b*, and the hopper *a* is an open space *d*, through which the grab-end portion of the chain *e* may be passed in winding it around the sill. The wheel-hook end of the chain is provided with a ring *f*, which is slipped over the conical end *g* of the wheel-hook *h*. The wheel-engaging end *i* of the wheel-hook fits over the flange *j* and engages the face *k* of the wheel *m*. The portion *n* of the wheel-hook is practically straight, and when the wheel-hook is in position it extends over the rim *o* of the wheel. A grab-hook *p* is provided at the other end of the chain, the grab-hook engaging one of the links of the chain in order to lock the chain in position around the sill.

The parts being in the position shown in Figs. 1 and 2, the car is moved slightly forward, and the consequent forward rotation of the wheel *m* carries the wheel-hook upwardly, thereby tightening the chain and bringing an upward thrust to bear upon the bottom of the journal-box *q*. The latter is thus moved upwardly relatively to the car-axle *r*, thereby loosening the brass *s* and permitting its ready removal. The chain is readily removed after the operation, since by a slight slackening the operator is enabled to slip the ring *f* over the conical end *g* of the wheel-hook, and

thereby to release the latter, after which the grab-hook *p* is readily disengaged from the link of the chain.

My new chain-jack is most efficient in operation, forcing the journal-box *q*, not downwardly, but vertically upward without the crowding sidewise of the brasses. The flange-engaging end of the wheel-hook has a firm grip on the wheel, so that slipping is impossible. The chain-engaging end of the hook *h* is readily engaged with and disengaged from the ring *f*. The whole construction is designed to make the device in operation very speedy and effective.

In some of the new forms of ore and coal cars the vertical sides of the car are supported upon posts or struts which rest upon the sill, the bottom of the car sloping inwardly from near the middle of the posts to form a hopper portion. Thus there is left open spaces between the posts, through which the chain may be passed in tying it to the sill. In many other of the cars open spaces *w* are left between the vertical side of the car and the sill, where the vertical side of the car rests, not upon posts, but springs directly from the sill itself.

What I claim is—

1. In a chain-jack, the combination of a chain provided with a fastening device at one of its ends; and a wheel-hook having its chain-engaging end bent oppositely from its wheel-engaging end and formed with a conical tip over which the other end of said chain may be readily slipped to engage and disengage it therewith and therefrom; said wheel-engaging end being formed with a hook constructed to fit over the flange of a car-wheel and to engage one of the faces thereof; and the part of said wheel-hook between its said ends being practically straight and constructed to rest across the rim-face of a car-wheel.

2. The combination in a structure of the class described of a car provided with a hopper, a sill projecting beyond said hopper and trucks upon which said hopper and sill are supported, said sill forming a means for the attachment of a chain; journal-boxes mounted in said trucks; brasses mounted in said journal-boxes; a car-axle journaled in said brasses; a car-wheel mounted on said car-axle; a wheel-hook which engages the flange of said car-wheel and is provided with a bent conical chain-engaging end; and a chain one end of which is fastened to said sill over its projecting end, the chain passing under the journal-box and having its free end attached to said wheel-hook by slipping said end over the conical chain-engaging end of said wheel-hook.

In testimony whereof I hereunto set my hand, in the presence of two witnesses, at said Two Harbors, this 14th day of May, 1906.

WELLINGTON R. HOYLE.

Witnesses:
DENNIS DWAN,
HATTIE E. SWAILES.