W. R. CROSS.

DRAFT-ROD FOR TENDERS.

No. 191,227. Patented May 29, 1877.

Fig. 1.

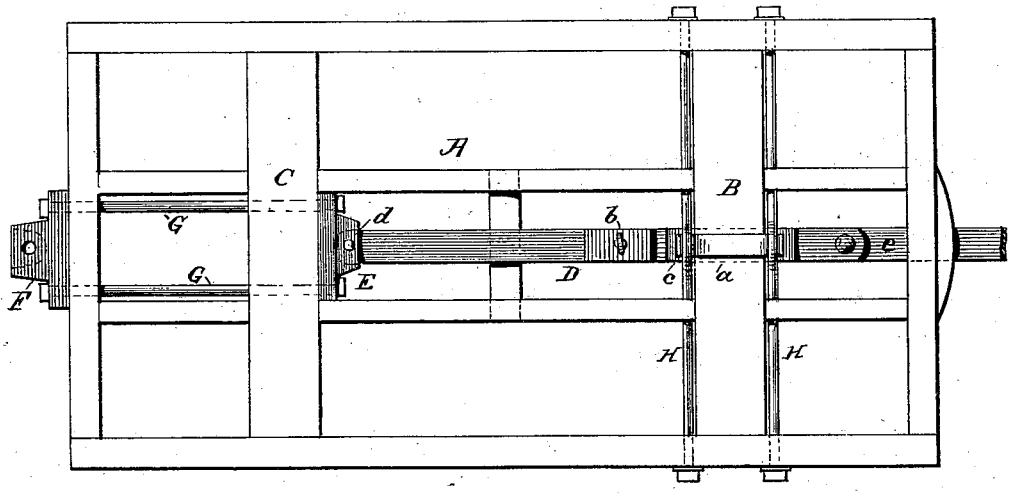
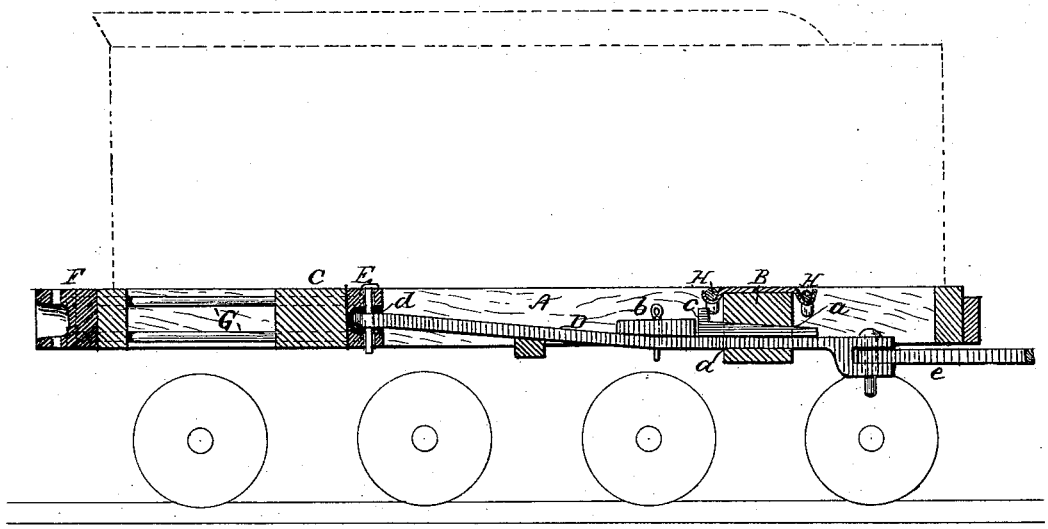


Fig. 2.



WITNESSES
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UNITED STATES PATENT OFFICE.

WILLIAM R. CROSS, OF PIEDMONT, WEST VIRGINIA.

IMPROVEMENT IN DRAFT-RODS FOR TENDERS.

Specification forming part of Letters Patent No. **191,227**, dated May 29, 1877; application filed May 3, 1877.

To all whom it may concern:

Be it known that I, WILLIAM R. CROSS, of Piedmont, in the county of Mineral, in the State of West Virginia, have invented certain new and useful Improvements in Draft-Rods for Tenders, of which the following is a full, clear, and exact description.

The object of my invention is to provide a direct line of draft between the locomotive and the cars of a train, so that the strain which has heretofore been borne by the tender shall be taken therefrom.

The invention consists in a rod secured beneath the tender, and connected with head-pieces or castings, bolted together and to the bolsters of the tender.

The invention further consists in providing this rod with means—as a wedge and stop, acting in conjunction with the tender-frame—for holding it to the tender when it may be broken or disconnected from the castings.

In the drawings, Figure 1 is a top-plan view of a tender-frame embodying my improvements. Fig. 2 is a longitudinal section thereof.

Similar letters refer to corresponding parts in the two figures.

The letter A designates a tender-frame, having the bolsters B and C. D represents a wrought-iron rod, extending from the forward end of the frame to the rear bolster. This rod passes through a recess, *a*, in the bolster B, and in the rear of said bolster it is provided with a removable stop-piece, *b*, against which rests or abuts a wedge-shaped key, *c*. The key *c* extends into the recess *a* in line with the rod D. E is a casting, having a socket, *d*, and secured to the front side of the rear bolster. This socketed casting is designed to receive the rear end of the rod D, a pin or bolt being employed to retain said rod within said socket. F is a somewhat similar casting on the face of the rear cross-head of the tender-frame, which may serve as a coupling draw-head. G G are four rods extending through the castings E and F, and, consequently, the cross-head and rear bolster, and provided with nuts on their ends, screwed up against the castings, and thereby serving to bolt said castings together. The front end of the rod D is provided with a link, *e*, for coupling to the locomotive. The front bolster B may be re-enforced by transverse rods H H on the frame.

In case the rod D or casting should break, the stop *b* will be brought against the key or wedge *c*, which will be thereby jammed in the bolster-recess, and firmly and securely retain the rod until it may be repaired.

By the construction described I obtain a direct line of draft from the locomotive to the train, and thereby the strain incident to the pulling of a train, especially on grades, which has heretofore been borne by the tender, is thrown upon the locomotive, thus relieving the tender, and permitting it to be built much lighter and much more inexpensively. At the same time the frame of the tender is strengthened.

The several parts being removable, they may be readily replaced or renewed without damage to or dismantling the tender.

What I claim is—

1. A draft-rod for locomotive-tenders, unyieldingly secured to the rear bolster only, and extending forward through the front bolster, substantially as described.

2. A draft-rod for tenders, extending through the front bolster, in combination with castings on the rear of the frame, and rods connecting said castings, whereby said draft-rod is unyieldingly secured in said frame, substantially as described.

3. A draft-rod for tenders, provided with a stop, and combined with a wedge or key and the front bolster, substantially as described.

WILLIAM R. CROSS.

Witnesses:

R. W. SWIFT,

I. W. THOMES.