(No Model.)

W. S. BARRIE & J. R. GROVES.

ATTACHING BROOMS TO LOCOMOTIVES.

No. 260,080. Patented June 27, 1882.

Fig 1

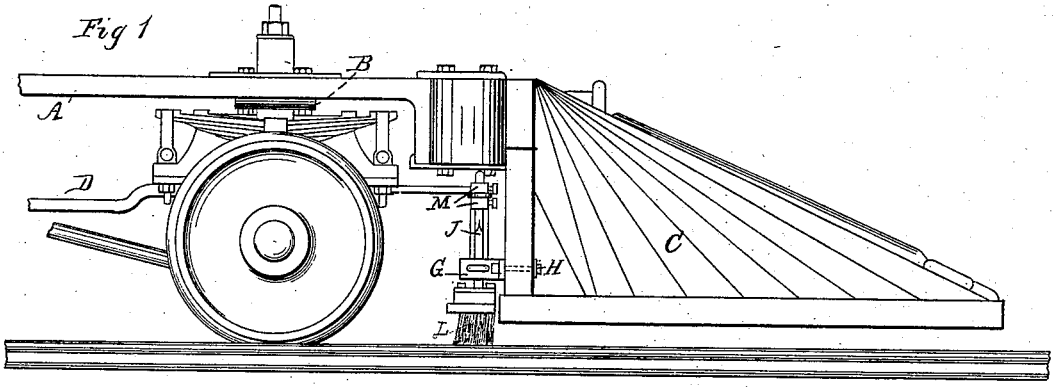


Fig 2.

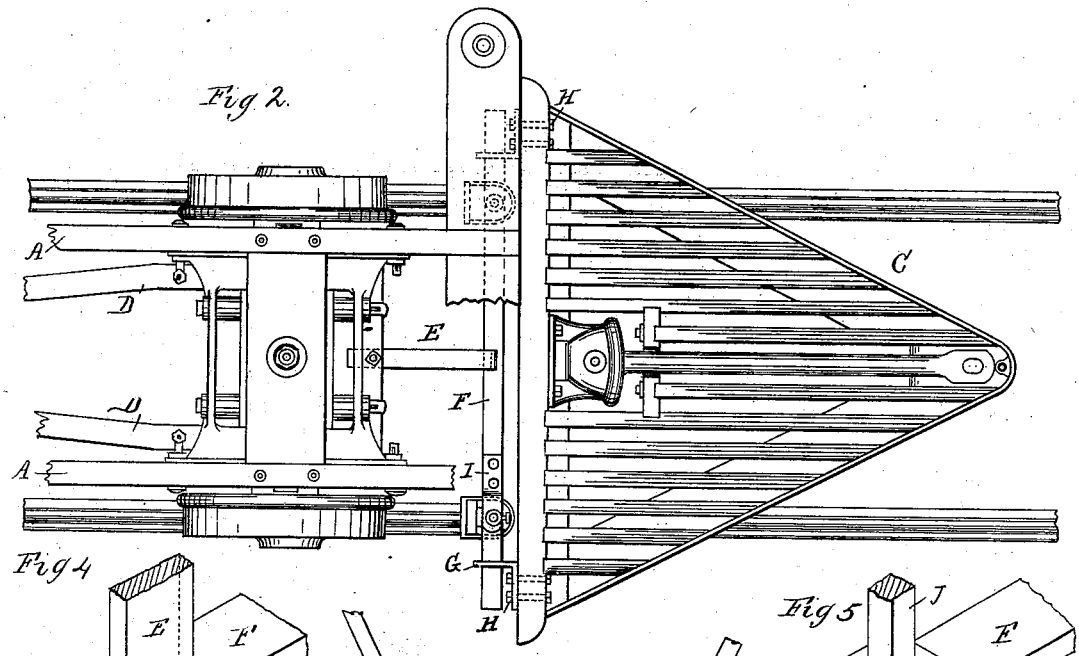


Fig 4

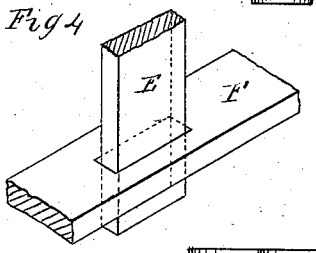


Fig 5

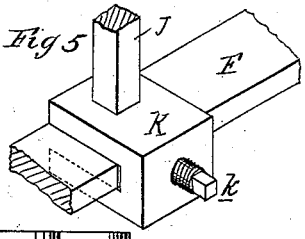
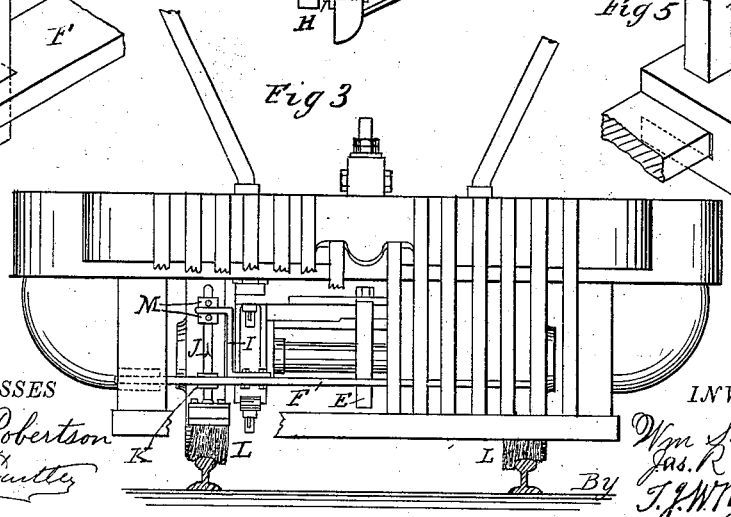


Fig 3



WITNESSES

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UNITED STATES PATENT OFFICE.

WILLIAM S. BARRIE AND JAMES R. GROVES, OF DENVER, COLORADO.

ATTACHING BROOMS TO LOCOMOTIVES.

SPECIFICATION forming part of Letters Patent No. 260,080, dated June 27, 1882.

Application filed February 1, 1882. (No model.)

To all whom it may concern:

Be it known that we, WILLIAM S. BARRIE and JAMES R. GROVES, citizens of the United States, residing at Denver, in the county of Arapahoe and State of Colorado, have invented certain new and useful Improvements in Attaching Brooms to Locomotives, of which the following is a specification, reference being had therein to the accompanying drawings.

This invention relates to an improvement in attaching brooms, scrapers, &c., to locomotive-engines for the purpose of clearing the track in front of the engine of snow, sand, grasshoppers, &c.; and the invention consists in the mode of governing the position of such brooms or scrapers, and in the peculiar construction and arrangement of parts whereby the brooms, &c., are kept in the proper position over the rails at all times, which has been impossible heretofore in rounding sharp curves.

In the accompanying drawings, Figure 1 represents a side elevation of part of a locomotive with our improvement connected thereto; Fig. 2, a plan view of the same, with part broken away; Fig. 3, a front view of the same, also having a part broken away; and Figs. 4 and 5 are details.

A represents the frame of the locomotive, supported in front on the swing-beam of the truck B, and having the pilot C attached in the usual manner. The truck is connected in this instance to radius-bars D, whose rear ends are attached to the saddles of the cylinder. (Not shown in drawings.)

Attached to the truck-frame B by a bolt, or in any convenient manner, is a bent arm, E, whose lower extremity fits loosely in a slot in a bar, F, which works freely in slots in the brackets or guides G, securely attached to the pilot by the bolt H H or in any convenient manner.

About midway between the center and each end of the bar or broom-holder F, and securely bolted or otherwise fastened thereto, is a bracket, I, which forms the support of the upper end of the broom or scraper handle J, which is fastened in position in the following manner: The saddle K is first slipped on the bar F, and the broom-handle is passed up through said saddle and bar, both of which have square holes loosely fitting the handle J, and when the set-screw *k* is tightened the broom is securely clamped in place, by reason of the saddle K drawing the handle J tightly against one side of a hole in the broom-holding bar F.

At the upper end of the handle (which is preferably of wrought-iron) are two collars, M M, each having a set-screw, and arranged one above and one beneath the free end of the bracket I, whereby the position of the broom may be readily adjusted to make up for wear or otherwise. In lieu of these collars, a saddle similar to K may be employed; or collars may be substituted for the saddle at the lower end; but we prefer the latter, as by its means the broom-handle and the bar F are firmly secured together, which prevents the wear of the holes and handles consequent on the jarring due to the rapid motion of the engine, which would occur without this form of fastening.

With this apparatus it will be seen that the motion and position of the brooms over the rail are independent of the lateral motion of the engine-frame, and depend on the movement of the truck-frame caused by the radius-bars D, and that the truck as it swings moves the bar F laterally by means of the bent arm E, so that the brooms or scrapers I are always kept in the proper position over the rails, no matter how sharp the curve, whereas if the brooms were connected to the frame of the engine, so as to move sidewise with it, they would move considerably to one side of their proper position when passing round a curve.

The slot in the bar F is loosely fitted to the end of the arm E, to give the latter freedom to move slightly therein, so that the rise or depression of the truck-frame will produce no strain on the bar F. If preferred, a link may be used as the connection between the arm E and bar F.

We do not mean to limit ourselves to the exact construction shown, as it may be varied without departing from the spirit of our invention; nor do we limit ourselves to the use of brooms, as any devices used for clearing or cleaning rails may be substituted for the brooms, and we consider such devices as equivalents for the brooms in the following claims, and although we show radius-bars connected to the truck, we do not limit ourselves to trucks having radius-bars.

What we claim as new is—

1. The mode herein described of governing the position of the brooms or scrapers on a locomotive by supporting them independently of the truck and giving them a lateral motion by means of a connection with said truck, substantially as described.

2. The combination, with a broom or scraper holder arranged to receive a lateral motion in a suitable supporting-frame, of an operating-bar connected with the truck, whereby the movement of the latter governs the position of the brooms, substantially as described.

3. The combination, with the brooms or scrapers J L and the sliding bar F, moving in suitable guides, of the truck B and arm E, substantially as described.

4. The guides G, bolted to the pilot, the sliding bar F, carrying the brooms or scrapers, and the arm E, attached to the truck B and moving therewith, in combination with said truck and the radius-bar D, all constructed and arranged substantially as shown and described.

5. The combination, with the bar F, moving in suitable guides and carrying the brooms or scrapers, of the arm E, connected with the truck-frame and loosely fitted to the bar F, substantially as and for the purpose specified.

6. The combination, with the bar F, of the brackets I, saddles K, set-screws *k*, and broom or scraper handles J, all constructed and arranged substantially as described, and for the purpose specified.

In testimony whereof we affix our signatures in presence of two witnesses.

WILLIAM S. BARRIE.
JAMES R. GROVES.

Witnesses:
E. J. SEELEY,
GEORGE N. SMITH.