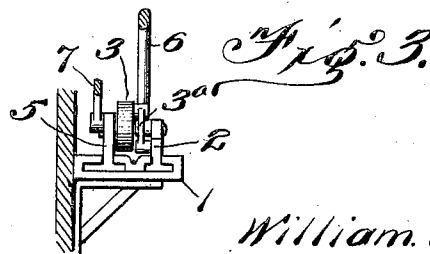
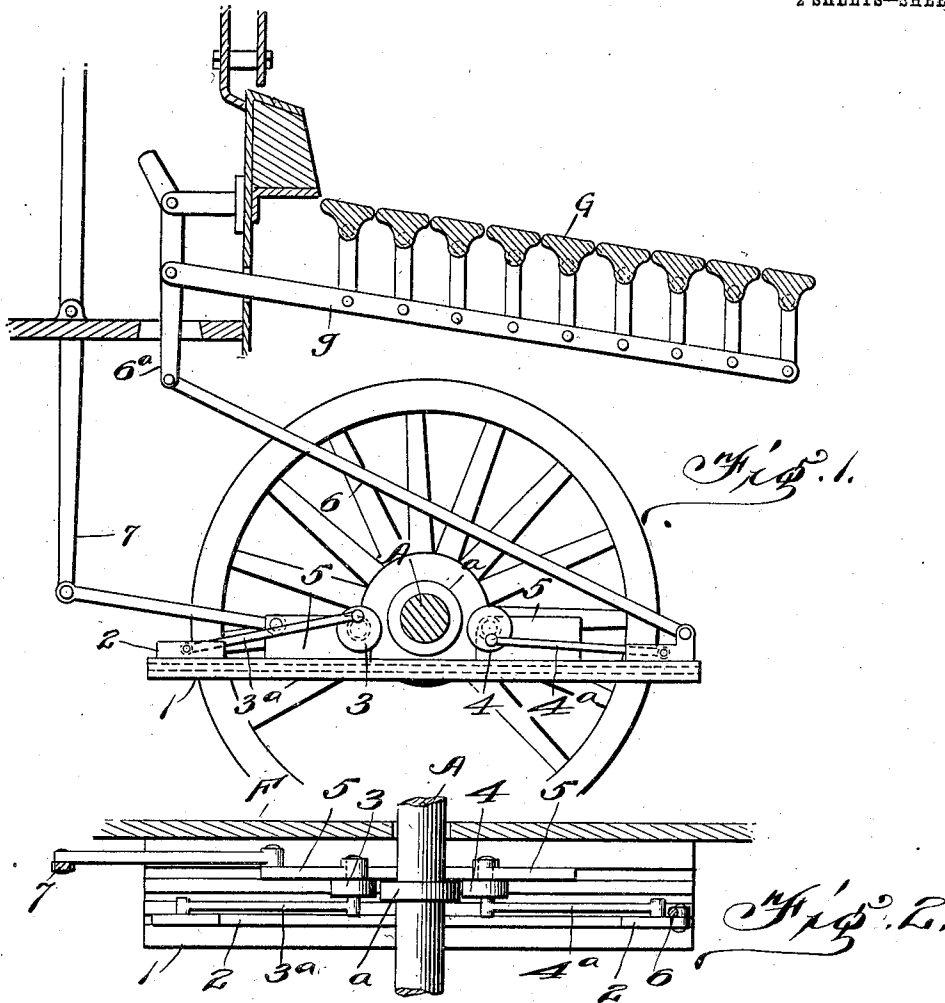


W. J. SIMPSON.
SHAKER FOR GRATES.
APPLICATION FILED MAR. 31, 1909.

937,967.

Patented Oct. 26, 1909.

2 SHEETS—SHEET 1.



Witnesses
Geo L Thom
Harold Meqrer

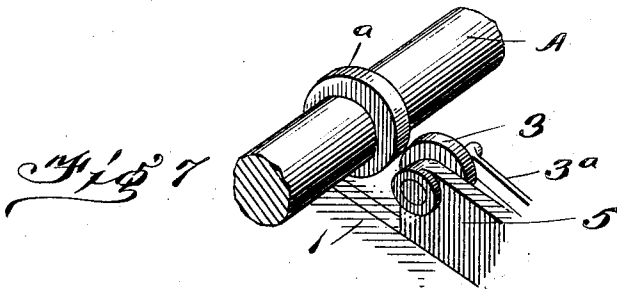
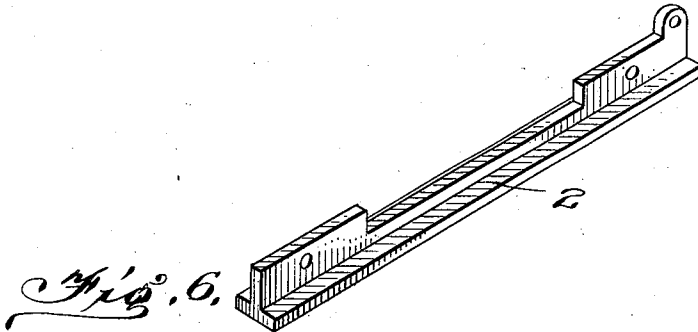
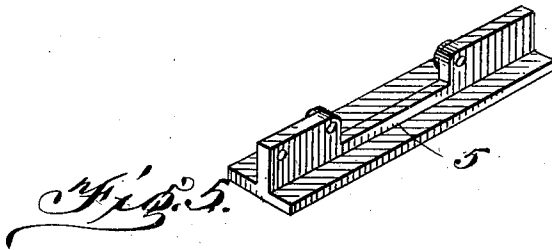
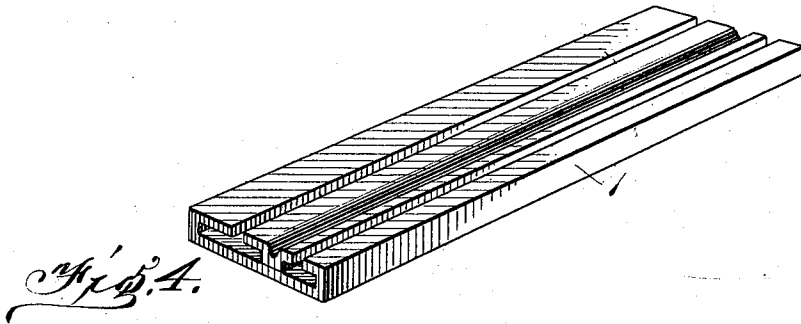
Inventor
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2 SHEETS—SHEET 2.



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UNITED STATES PATENT OFFICE.

WILLIAM J. SIMPSON, OF KOOTENAI, IDAHO, ASSIGNOR OF ONE-HALF TO LEWIS W. HAMEL, OF KOOTENAI, IDAHO.

SHAKER FOR GRATES.

937,967.

Specification of Letters Patent.

Patented Oct. 26, 1909.

Application filed March 31, 1909. Serial No. 486,989.

To all whom it may concern:

Be it known that I, WILLIAM J. SIMPSON, citizen of the United States, residing at Kootenai, in the county of Bonner and State of Idaho, have invented certain new and useful Improvements in Shakers for Grates, of which the following is a specification.

This invention relates to means for shaking grates, and is particularly adapted and intended for the purpose of shaking the grates of locomotives, although it is capable of application to traction engines and the like.

The object of the invention is to provide means whereby the grate will be shaken by the aid of the engine, the grate being connected to a gearing which may be operated by the axle of the engine for the intended purpose, the operation being under the control of the fireman.

The invention is illustrated in the accompanying drawings in which—

Figure 1 is a side elevation thereof, the grate and axle being shown in vertical section. Fig. 2 is a detail in plan of the operating devices for shaking the grate. Fig. 3 is an end elevation of the device shown in Fig. 2. Figs. 4, 5, 6 and 7 are details in perspective of various parts of the operating devices.

Referring specifically to the drawings, A indicates the axle of a locomotive or the like, and G the grate bars thereof, which may be of any ordinary rocking or shaking type.

Mounted in the frame F of the engine, under the grate is a support 1 forming a guide or way for a slide 2.

5 is a sliding boxing or carrier which is mounted upon the support 1 which may be shifted lengthwise thereon by means of a lever 7 which will extend up through the floor of the cab in convenient position for operation by the fireman. The carrier 5 supports two friction wheels 3 and 4 which are located respectively on opposite sides of the axle A. These friction wheels are respectively connected by oppositely extending pitmen 3^a and 4^a to the slide 2, and when the frame 5 is shifted one or the other of the wheels will be brought into driving contact with the axle A or with a friction ring a placed thereon for the purpose. The slide 2 is connected by a rod 6 to a lever 6^a, which may be the usual lever used for the purpose of shaking the grate, said lever being con-

nected to the reciprocating bar g which is attached to the grate bars for the purpose of rocking the same.

In operation, when the lever 7 is set at the middle point, both the wheels 3 and 4 will be out of contact with the axle, and the gear will be idle. To shake the grate, the lever is thrown one way or the other, which shifts the wheels one way or the other, so that one will contact with the axle, which will drive the slide 2 back and forth and by the connections shown will rock the grate one way or the other. By using two wheels the grate can be reversed or tilted either way while it is being shaken, so that in case it chokes with cinders, they can be broken up and dislodged by shifting from one wheel to the other. Obviously, however, the device is capable of use with only one wheel.

The devices will occupy but little space at the side of the bed of the locomotive under the grate, and will not interfere with the working of the engine.

Various modifications may be made within the scope of the invention, which is not limited to the details shown.

I claim:—

1. The combination with a locomotive axle and shaking grate of a support extending across under the axle, a slide mounted on the support and operatively connected to the grate, a movable carrier mounted on the support, a wheel on the carrier, and arranged to be moved into or out of contact with the axle, a pitman connecting the wheel and the slide, and means to shift the carrier.

2. The combination with a locomotive axle and shaking grate, of a support extending across under the axle, a slide mounted on the support, a carrier mounted on the support, a pair of friction wheels mounted in bearings on the carrier and located on opposite sides of the axle, oppositely extending pitmen connecting the wheels and the slide, means to shift the carrier to throw either wheel in engagement with the axle, and an operative connection between the slide and the grate.

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

WILLIAM J. SIMPSON.

Witnesses:

I. WEIL,
LEWIS W. HAMEL.