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SHAKER BAR FOR LOCOMOTIVE GRATES

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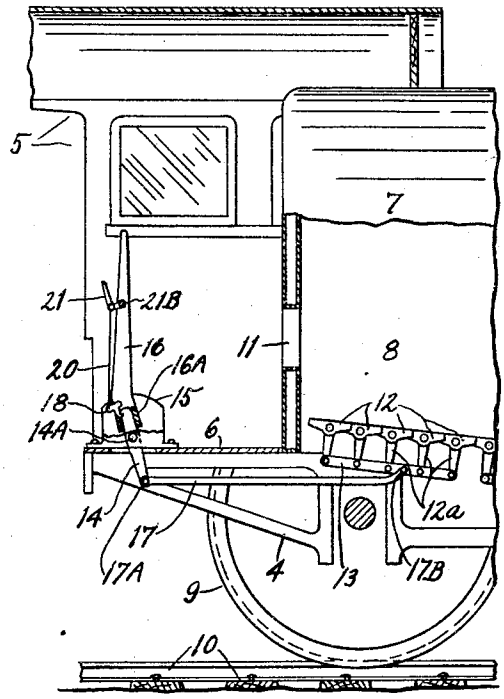


FIG. 1.

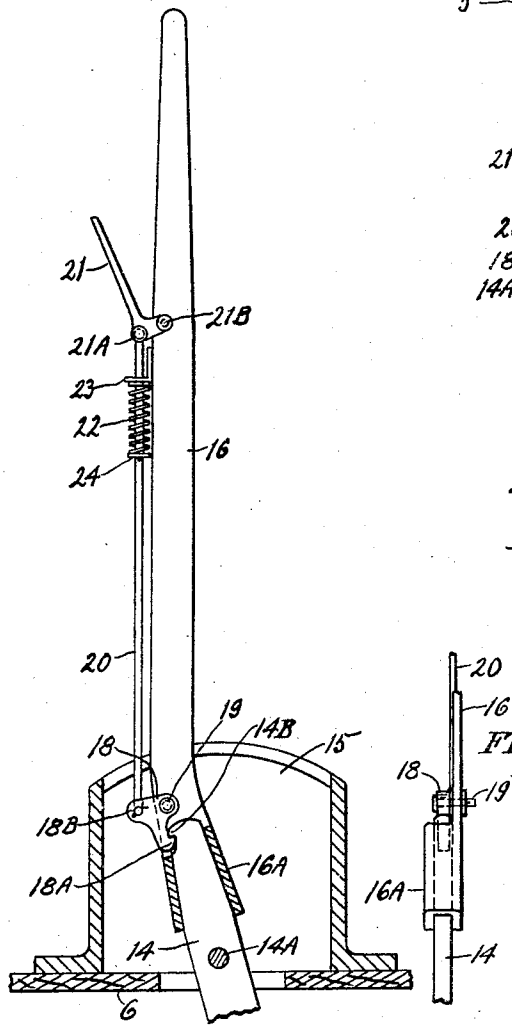


FIG. 2.

FIG. 3.

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SHAKER BAR FOR LOCOMOTIVE GRATES.

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My invention relates to grate shaker bars for locomotives and the object is to provide a simple and efficient bar of said kind readily detachable from the shaker lever stub but securely attached to said stub when used in operative connection therewith.

In the accompanying drawing;

Fig. 1 is a longitudinal vertical sectional elevation of the rear end or cab portion of a locomotive and my improved shaker bar shown in operative position.

Fig. 2 is an enlarged vertical side elevation of my improved shaker bar partly in section, and attached to a shaker stub lever, and some adjacent parts shown in section.

Fig. 3 is a right hand edge view of the lower part of my shaker bar shown in Fig. 1 and a portion of the shaker lever stub.

Referring to the drawing by reference numerals, in Fig. 1, 4 designates the locomotive main frame, 5 the cab, 6 the cab floor, 7 the boiler, 8 the fire box, 9 the left hand rear drive wheel and 10 the track. 11 is the usual fire door and 12 shows a section or group of rocking grates each of which has a depending arm 12^a and all of said arms in each grate section connected by a bar 13 pivotally engaging the lower ends of the said arms 12^a.

14 is the usual vertically disposed shaker lever stub within the cab and pivoted as at 14^A, within a suitable housing 15, its upper end or arm usually tapered to be engaged by the socket 16^A on the lower end of the shaker lever 16. There may be several of the stub levers 14 (not shown) pivoted on a common shaft 14^A within housing 15. Each such stub lever 14 has its lower end pivotally secured as at 17^A to the rear end of a suitable reach bar 17 extending forward and its forward end pivotally secured as at 17^B to a bar 13 of one of the grate sections.

The parts thus far described are common to most locomotives and for a full understanding of my device and its advantages it is necessary to here state that as the bars 16 and their sockets 16^A are usually constructed the socket is simply slipped over the upper end of the stub lever 14 and the fireman shakes the grates by simply rocking the bar 16 back and forth. When the fireman desires to move the bar from one stub lever to another it is often found that the pocket 16^A is stuck on the stub 14 and the removal is difficult, but the greatest danger is when the socket and lever are a loose fit. In the latter case the bar may be jarred loose and fall on the cab floor or even fall out of the cab. As the bar is necessarily heavy these conditions may cause injuries.

To overcome the above objectionable conditions I provide a notch 14^B in one of the edges of the stub lever 14 and near its upper end. This notch is adapted to be engaged by a latch member or dog 18 pivoted at 19 on lever 16. Said member has a lateral arm 18^B having an aperture in which is pivotally retained the lower end of a latch rod 20. Said rod extends upwardly in parallel relation to the bar 16 and its upper end is pivotally secured at 21^A to a latch grip 21 pivoted at 21^B preferably about 15 inches from the upper end of the bar 16. (See Fig. 2).

22 is a helical coil spring about rod 20 and held in compression between a bracket 23 fixed on bar 16 and a washer 24 on the rod and below said bracket. Thus rod 20 is always directed downwardly and the latch or dog 18 is held in engagement with the tooth or notched part 14^B of the stub lever 14.

The object in leaving an unobstructed top end of lever 16 above grip 21 is to provide a clear space for the operator to grasp when manipulating the bar. To release the bar from the stub lever the operator merely presses the grip 21 toward the bar 16 thereby pulling rod 20 upwardly and releasing latch 18 from engagement with stub lever 14.

What I claim is:

The combination with a grate bar lever oscillatable in a vertical plane and having a notch at its upper end, of a shaker bar adapted to removably engage the upper part of said lever and means on said shaker bar for engaging said notch of the lever and further means intermediate the ends of said bar to disengage the bar from said lever, the part of the bar engaging the lever comprising an elongated socket adapted to slidably engage the stub lever, said means for

engaging said stub lever comprising a dog pivoted on the shaker bar and adapted to engage the notched portion of the stub lever said intermediate means comprising a finger lever pivoted on the bar above the dog, a rod connecting said finger lever and the dog, and further means holding said dog in said notch comprising a compression spring about said rod and under compression between a fixed arm on the lever and a washer on said rod.

In testimony whereof I affix my signature.

VICTOR T. BJORK.