R. C. HYDE.

LOCK FOR LOCOMOTIVE SHAKER BARS.

APPLICATION FILED OCT. 14, 1920.

**1,412,181.** Patented Apr. 11, 1922.

Fig. 1.

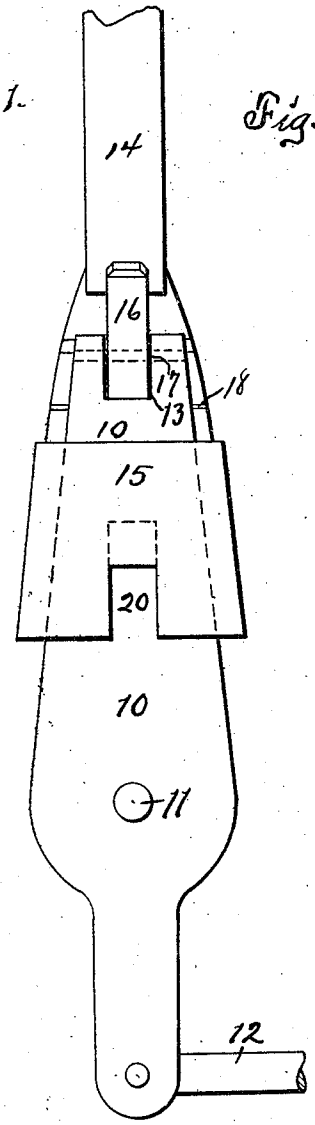



Fig. 2.

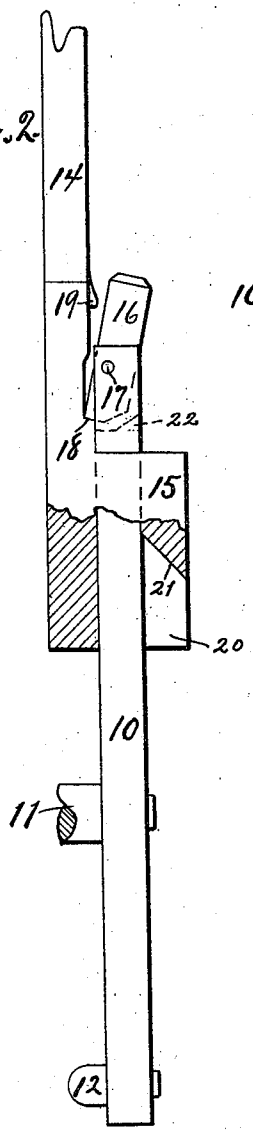
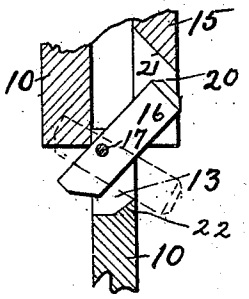



Fig. 3.




Inventor:
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# UNITED STATES PATENT OFFICE.

ROBERT C. HYDE, OF DES MOINES, IOWA.

## LOCK FOR LOCOMOTIVE SHAKER BARS.

1,412,181. Specification of Letters Patent. Patented Apr. 11, 1922.

Application filed October 14, 1920. Serial No. 416,990.

*To all whom it may concern:*

Be it known that I, ROBERT C. HYDE, a citizen of the United States of America, and resident of Des Moines, Polk County, Iowa, have invented a new and useful Lock for Locomotive Shaker Bars, of which the following is a specification.

The object of this invention is to provide means for locking or latching together a handle and a shaker bar temporarily for manual use in oscillating said bar.

A further object of this invention is to provide means for preventing accidental removal of a handle relative to a shaker bar in use, thus avoiding accidents in the operation of the devices.

A further object of this invention is to provide a construction adapted for convenient application of a handle to a shaker bar.

A further object of this invention is to provide means for manual release of a handle from a shaker bar.

My invention consists in the construction, arrangement and combination of elements hereinafter set forth, pointed out in my claims and illustrated by the accompanying drawing, in which—

Figure 1 is a front elevation and Figure 2 a side elevation, partly in section, illustrating the construction and application of my improvements, a part of the handle being removed to economize space. Figure 3 is a vertical section illustrating certain parts at one step in the operation of connecting or disconnecting them, dotted lines showing a position assumed by one of the parts when other elements are disconnected.

In the construction of the device as shown the numeral 10 designates a shaker bar adapted to be mounted for oscillation on a pivot 11 and also adapted to be connected by a rod 12 to grate bars or other devices to be agitated (not shown). The shaker bar 10 is formed with a notch 13 in its upper end and said bar preferably is formed tapering above the pivot 11. A handle 14 is formed with a tapering socket 15 lying wholly in a plane at one side of the body of the handle, and said socket is adapted to be placed on and removed from the tapering upper end portion of the shaker bar 10. The socket 15 is fitted to the shaker bar so that said bar may be oscillated conjunctively with any oscillation of the handle manually. A trigger 16 is mounted loosely in and is adapted to project from the notch 13 in the shaker bar and is carried by a pivot 17 decentered in the trigger; and a notch is formed in one face of the handle 14 to form a shoulder 18 adapted to be engaged by one edge of the trigger and prevent accidental removal of the handle and its socket from the bar. The decentered or eccentric mounting of the trigger in the bar provides for automatic engagement of the trigger with said shoulder. A lug 19 is formed on the handle 14 above the shoulder 18 and serves to limit movement of the trigger in one direction. The outer wall of the socket 15 is formed with a notch 20 having an inclined upper wall 21. When the parts are disconnected the trigger assumes, by gravity, the position shown by dotted lines in Figure 3. The handle 14 is applied manually by downward movement of the socket 15 over the notched end of the shaker bar 10. In such movement, the lower end of the handle, adjacent the socket, engages the shorter arm of the trigger 16 and rotates said trigger (against gravity) into the position shown substantially in Figures 1 and 2, the longer arm of the trigger passing through the notch 20. When the socket has passed to its seat on the shaker arm, the shoulder 18 has passed beyond the adjacent edge of the trigger and said trigger may move slightly so as to engage said edge and shoulder exactly as shown in Figures 1 and 2. In such positions of the parts, the trigger locks the handle and socket to the shaker arm and the handle may safely be oscillated manually for agitation of the grate bars or connected parts. The trigger may be released manually from the handle to permit the handle to be removed from the shaker bar.

When the parts are assembled as shown the fireman of a locomotive equipped therewith may operate the handle without danger of being injured or thrown from the cab by accidental removal of the handle from the bar, and accidental removal and loss of the handle also is prevented.

An upstanding lug 22 preferably is formed at the front side of the lower end of the notch 13, and the forward side of the lower end of the trigger 16 is correspondingly notched or cut away, thus limiting movement of said trigger through an arc in one direction. This insures that the trigger will always fall to the position indicated by dot-

ted lines in Figure 3 when the handle is removed, rather than in the opposite direction, so that the long arm of said trigger may swing through the notch 20 when the handle is applied to the shaker bar.

If desired additional shoulders 18 may be provided in vertically spaced relation, so that the handle socket 15 may at all times fit snugly to the shaker bar and be engaged by the trigger 16, regardless of any wear which may take place in the parts.

It is to be understood that this lock may be used on shaker bars for grates other than those forming parts of locomotives, and that its specific application herein is for purposes of illustration of various uses to which the invention may be put.

I claim as my invention—

1. In a lock for shaker bars, the combination of a shaker bar, a trigger pivoted thereon, and a handle formed with a socket, which handle is adapted to engage said trigger and move the same rotatably as the handle is applied to the shaker bar, said handle also being adapted to be engaged and retained by said trigger.

2. In a lock for shaker bars, the combination of a shaker bar, a trigger pivoted thereon, and a handle formed with a socket, which handle is adapted to engage said trigger and move the same rotatably as the handle is applied to the shaker bar, said handle also being adapted to be engaged and retained by said trigger, said trigger being pivoted in decentered relation whereby it is impelled to move to locking engagement with said handle by force of gravity.

3. In a lock for locomotive shaker bars, the combination of a shaker bar formed with a notch, a trigger pivoted in said notch, and a handle formed with a socket adapted to embrace said bar and also formed with a shoulder adapted to engage said trigger at times and also formed with a lug adapted to limit movement of the trigger in one direction, said trigger being pivoted in decentered relation whereby it is impelled to move to locking engagement with said shoulder by force of gravity.

4. In a lock for locomotive shaker bars, the combination of a shaker bar formed with a notch, a trigger pivoted in said notch, and a handle formed with a socket having a notch which handle is adapted to engage said trigger and move the same rotatably through the notch in the socket, said handle also being adapted to be engaged and retained by said trigger, said trigger being pivoted in decentered relation whereby it is impelled to move to locking engagement with said shoulder by force of gravity and also being adapted to be engaged by said handle and oscillated against gravity, swinging through the notch in said handle to assume its locking relation.

Signed at Des Moines, in the county of Polk and State of Iowa, this 20th day of September, 1920.

ROBERT C. HYDE.