E. H. JOHNSTON.

Locking Device for Railroad Turntable, &c.

No. 202,828. Patented April 23, 1878.

FIG. 1.

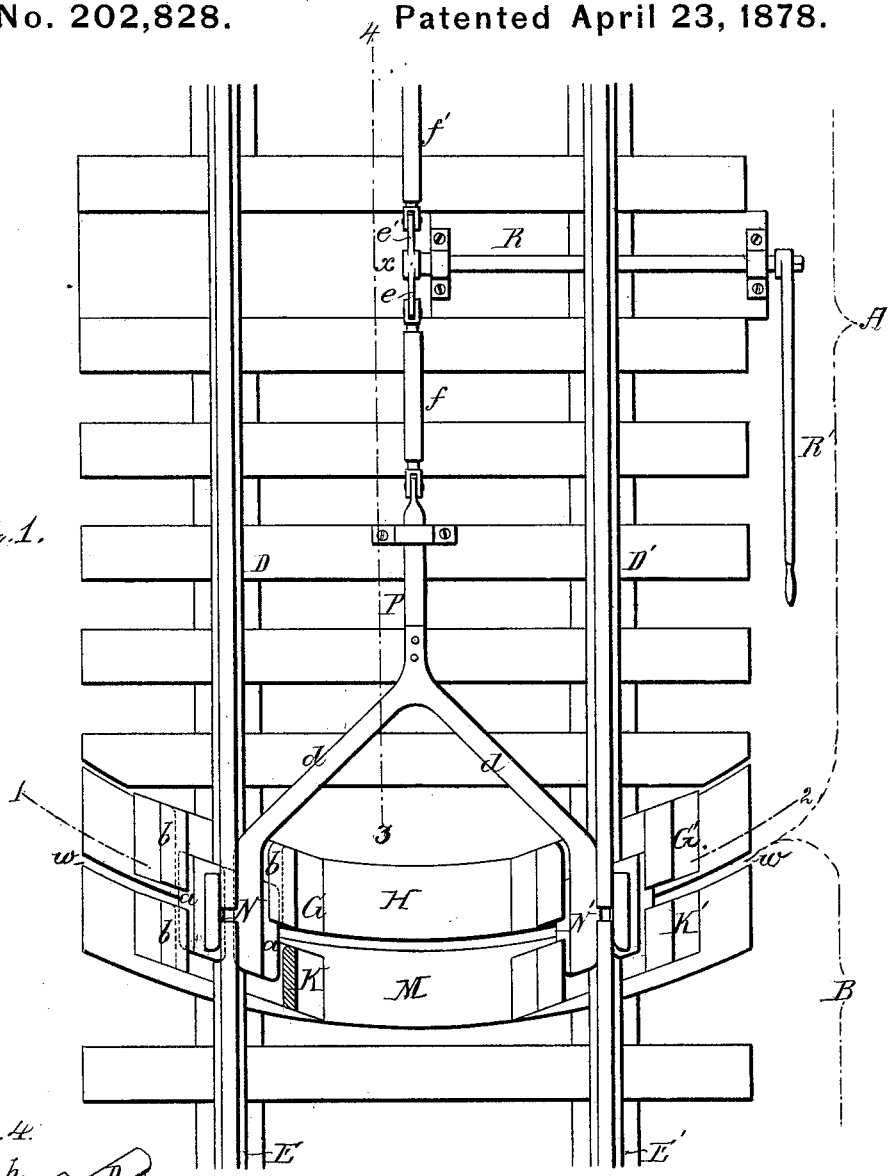



FIG. 4.

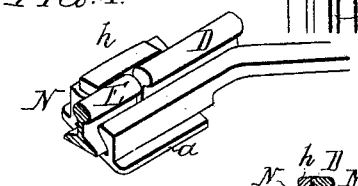



FIG. 2.

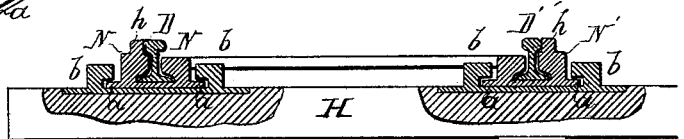
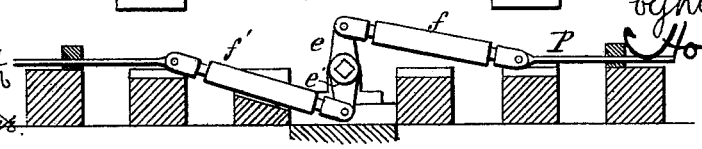



FIG. 3

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# UNITED STATES PATENT OFFICE.

EDWARD H. JOHNSTON, OF PHILADELPHIA, PENNSYLVANIA, ASSIGNOR TO THE WHARTON RAILROAD SWITCH COMPANY, OF SAME PLACE.

## IMPROVEMENT IN LOCKING DEVICES FOR RAILROAD TURN-TABLES, &c.

Specification forming part of Letters Patent No. **202,828**, dated April 23, 1878; application filed March 21, 1878.

*To all whom it may concern:*

Be it known that I, EDWARD H. JOHNSTON, of Philadelphia, Pennsylvania, have invented a new and useful Improvement in Locking and Releasing Devices for Railroad Pivot-Bridges, &c., of which the following is a specification:

The object of my invention is to provide the pivot or swing bridge or turn-table of a railroad with sliding blocks so adapted to the rails of the bridge or turn-table, and to those of the permanent way, and to guiding-plates on both, that by adjusting the said blocks the said bridge or turn-table may be either released and be free to rotate, or may be so locked as to steadily maintain the rails of the bridge or turn-table in line with those of the permanent track, both laterally and vertically, and prevent that sagging which, on the passage of trains, results in the imparting of detrimental shocks both to the bridge or turn-table itself and to the rolling stock.

In the accompanying drawing, Figure 1 is a plan view of a pivot-bridge with my improved locking and releasing device; Fig. 2, a transverse section on the line 1 2; Fig. 3, a section on the line 3 4, and Fig. 4 a perspective view of one of the sliding blocks.

A represents part of the swing-bridge, the pivot of which is at the point *x*, and B part of the permanent track, which may be either a portion of the permanent bridge or of a pier. D and D′ are the usual rails of the pivot-bridge, and E and E′ the rails of the permanent structure. Two guide-plates, G G′, are secured to the segmental end H of the pivot-bridge, and two similar guide-plates, K K′, to the segmental end M of the permanent structure.

N and N′ are two sliding blocks, one adapted to the rails D and E, and the other to the rails D′ and E′, the blocks so fitting to the rails that they can be moved freely to and fro thereon, and the block N being arranged to slide in the guide-plates G and K, while the block N′ is arranged to slide in the guide-plates G′ and K′.

It will be observed that each sliding-block has on each edge a flange, *a*, and that these flanges are overlapped by ribs *b b* on the guide-plates.

The two sliding blocks are connected by diagonal arms *d d* to a guided bar, P, situated, preferably, in the center of the track of the pivot-bridge, and this bar is connected by a rod, *f*, to an arm, *e*, on a transverse shaft, R, situated at or near the pivot of the bridge, and constructed for the reception of a detachable handle, R′, for operating the shaft.

It will be understood that about one-half only of the pivot-bridge is shown in the drawing, the other half being precisely the same as that illustrated, and having sliding blocks adapted to the rails and guiding-plates both of the pivot-bridge and permanent track, as described above, these sliding blocks being connected to an arm, *e′*, on the shaft R by the rod *f′*, Fig. 3, so that all four blocks may be operated simultaneously by manipulating the handle R′.

As shown in Fig. 1, the sliding blocks extend across the segmental space *w*, between the pivot-bridge A and permanent structure B, one portion of each block being contained within the guiding-plate of the pivot-bridge, and another portion within the guiding-plate of the permanent structure, so that the pivot-bridge must necessarily be locked to the said structure at four points, while the ends of the rails of the bridge are, at the same time and by the same sliding blocks, locked to the ends of the rails of the permanent track. This locking is not only lateral but vertical, as the sliding blocks are overlapped by the ribs *b* of the guiding-plates, and as the sliding blocks, thus held down, keep the ends of the rails in their proper vertical position; hence there can be no depression or rocking of the pivot-bridge as the train passes, the rails of the bridge forming immovable continuations of the rails of the permanent tracks.

As there must necessarily be a space between the ends of the rails of the bridge and those of the permanent track, I form on each sliding block a rib, *h*, the upper edge of which is slightly rounded longitudinally, the highest point being preferably a trifle above the treads of the rails, and being adjacent to the gap between the rail of the bridge and that of the permanent track, so that the treads of the

wheels of the locomotive and cars will bear on this rib, the latter thus serving to bridge the gap, and preventing the shocks and jars which would occur in its absence on the passage of trains.

When the bridge has to be unlocked preparatory to being turned on its pivot, all that is necessary is to operate the shaft R, by turning which all four sliding blocks will be retracted simultaneously within the limits of the bridge.

It is not necessary to adhere to the precise mechanism described for operating the sliding blocks; but I prefer it, as it has been found to be efficient in practice.

The corners of each sliding block should be rounded, as shown in that portion of Fig. 1 where the guide-plate K is seen partly in section, so that the block may easily enter the guard-plate and readily adapt itself to the permanent rail.

My invention may be applied to railroad turn-tables or draw-bridges as well as to pivot-bridges.

I claim as my invention—

1. The combination of guiding-plates on the pivot-bridge, draw-bridge, or turn-table of a railroad, and similar plates on the permanent structure adjoining the same, with sliding blocks adapted to the said guiding-plates and to the rails of the bridge or turn-table and those of the permanent track, all substantially as set forth.

2. The combination, in a pivot or draw bridge or turn-table, of sliding blocks adapted to the rails and guiding-plates of the said bridge or turn-trble and permanent track, with the shaft R, its arms *e e'*, and devices for connecting the arms to the said blocks, all substantially as specified.

In testimony whereof I have signed my name to this specification in the presence of two subscribing witnesses.

EDWARD H. JOHNSTON.

Witnesses:
HARRY A. CRAWFORD,
HARRY SMITH.