tain as great a proportion of the weight of superstructure as may be. But the skill and judgment of engineers in charge of specific cases respectively, will dictate as to the minutiae of these devices, and more precise detail will not be attempted in this place.

CLXXIX. This plan of turn table, as well as the one hereafter to be described, is worked by a vertical shaft attached to the superstructure, and turned by one or more sweep levers, with a pinion at the lower end, taking into toothed segments attached to the circular track b, or to the masonry of the pier p; and, in case more power be required, a gear wheel takes place of the sweeps above mentioned, and these are transferred to a second shaft and pinion working into said gear wheel.

The table above described, with slight modifications, is extensively in use, and, when well constructed, undoubtedly works as easily and satisfactorily as can be expected. Still, it is liable to some objections, among which may be named the great weight of the ring cc, constituting or carrying the inverted rail, and the great number of rollers, a, so few of which can act with much effect at the same time. For, it is obvious that about two rollers under each king post, support essentially the whole weight. It is therefore proper that when the bridge is in place, each king post should stand centrally between two consecutive rollers; and, that the rollers be at equal distances apart. Then there will be at least 8 rollers under equal pressure at all times when loads are in transit, and when rollers receive their greatest pressure. But without discussing this plan further at present, I proceed to describe another swing bridge turn-table devised many years ago by myself,