(No Model.)

3 Sheets—Sheet 1.

A. J. MOXHAM.

RAILWAY TURN TABLE.

No. 391,551. Patented Oct. 23, 1888.

Fig. 1.

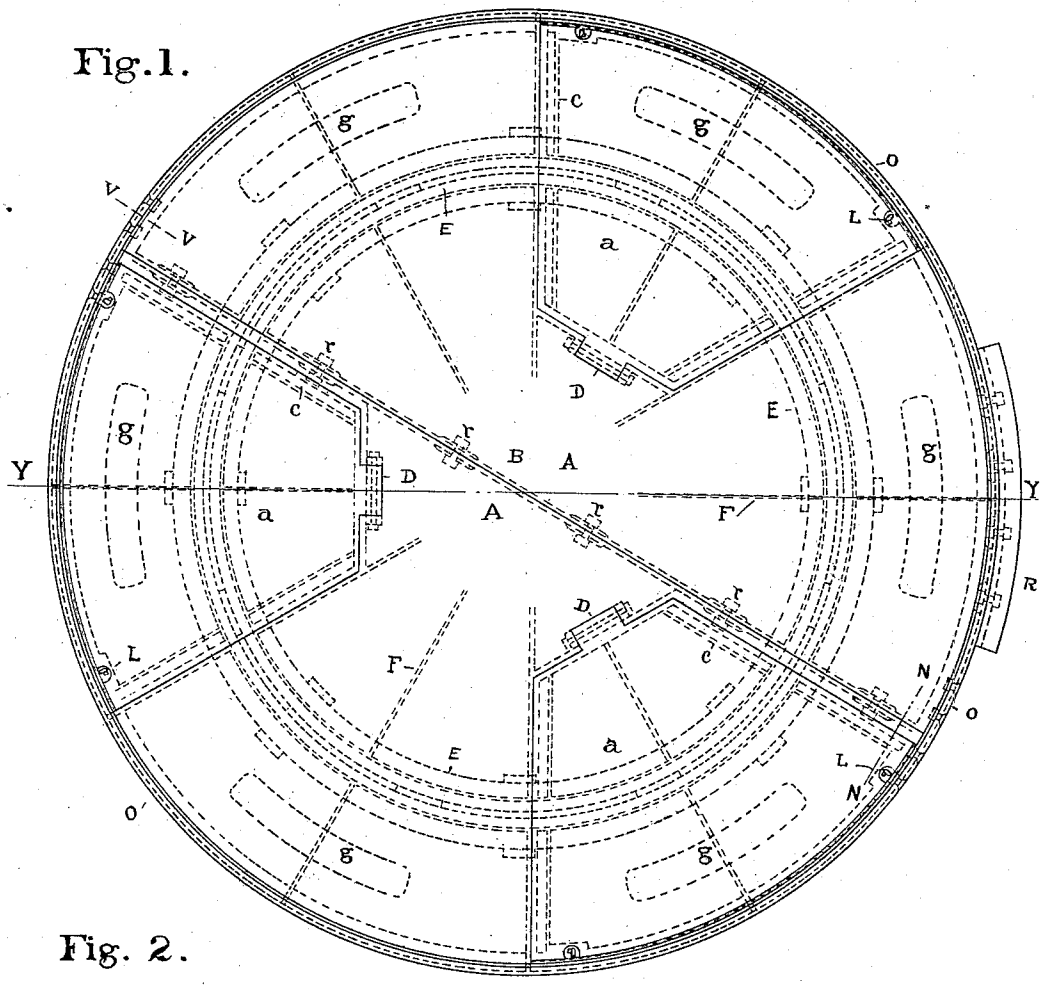
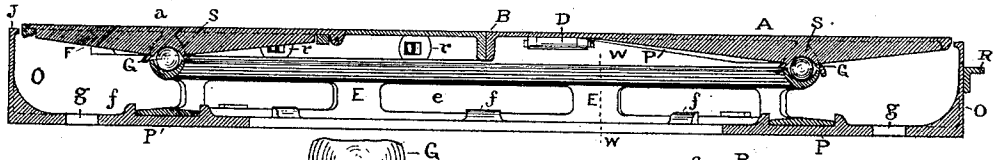


Fig. 2.



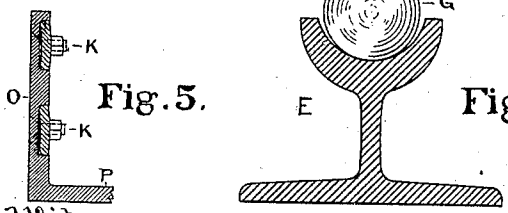


Fig. 5.

Fig. 4.

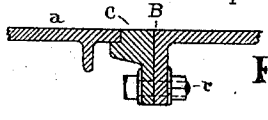


Fig. 3.

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(No Model.) 3 Sheets—Sheet 2.

A. J. MOXHAM.

RAILWAY TURN TABLE.

No. 391,551. Patented Oct. 23, 1888.

Fig. 6.

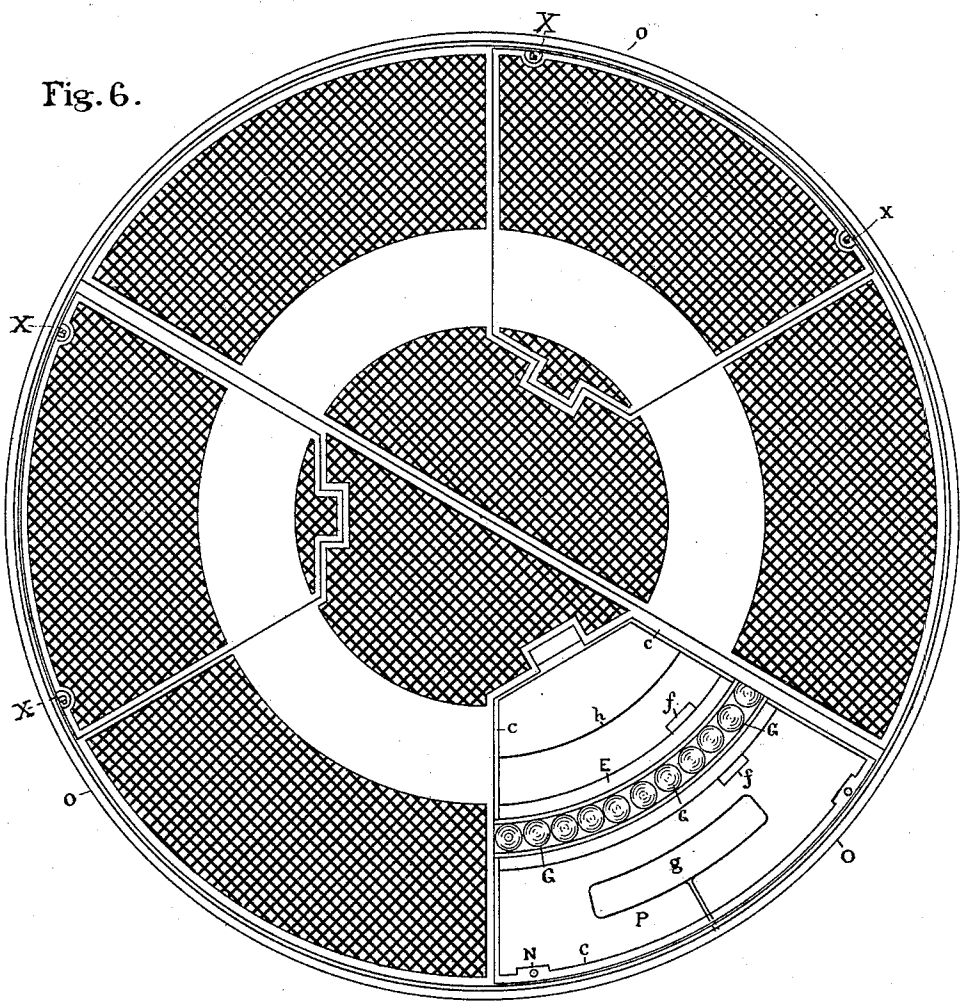
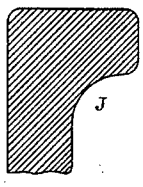


Fig. 8.



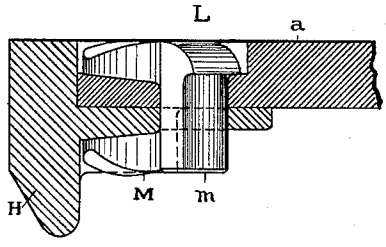


Fig. 7.

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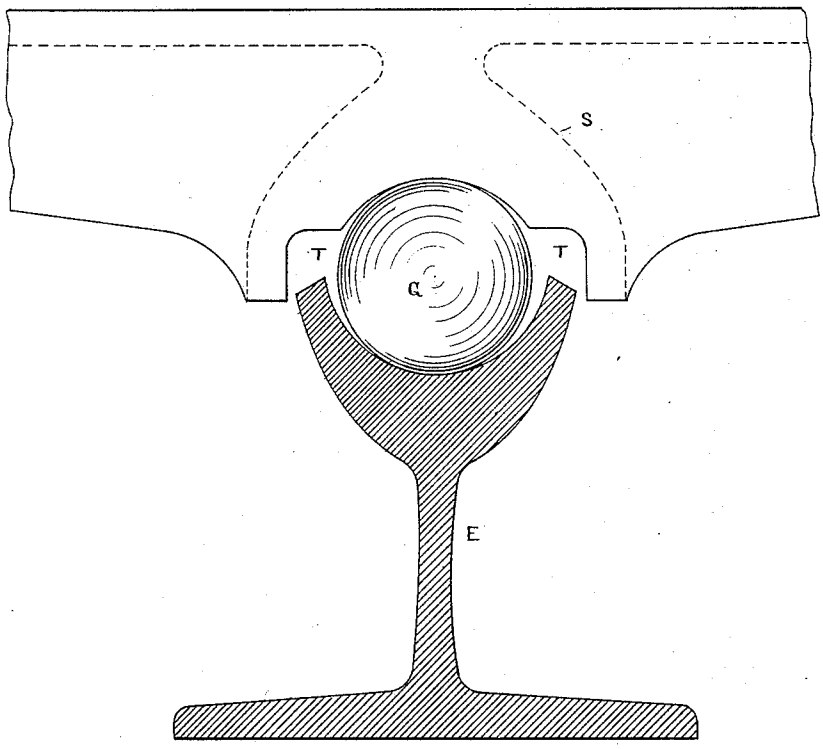
(No Model.) 3 Sheets—Sheet 3.

A. J. MOXHAM.

RAILWAY TURN TABLE.

No. 391,551. Patented Oct. 23, 1888.

Fig. 9.



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UNITED STATES PATENT OFFICE.

ARTHUR J. MOXHAM, OF JOHNSTOWN, PENNSYLVANIA.

RAILWAY TURN-TABLE.

SPECIFICATION forming part of Letters Patent No. 391,551, dated October 23, 1888.

Application filed December 30, 1887. Serial No. 259,381. (No model.)

To all whom it may concern:

Be it known that I, ARTHUR J. MOXHAM, of Johnstown, in the county of Cambria and State of Pennsylvania, have invented a new and useful Improvement in Railway Turn-Tables, which invention is fully set forth and illustrated in the following specification and accompanying drawings.

The object of this invention, among other improvements, is to construct a turn-table with ready accessibility to all its working parts within its pit, some of which constitute improvements hereinafter described.

The invention will first be described, and then particularly set forth in the claims.

In the accompanying drawings, Figure 1 is a plan of the turn-table, showing its interior construction in dotted lines. Fig. 2 shows a vertical section taken through Fig. 1 at the line Y Y. Fig. 3 shows a vertical section taken through Fig. 1 at the line N N. Fig. 4 shows a vertical section taken through Fig. 2 at the line W W. Fig. 5 shows a vertical section taken through Fig. 1 at the line V V. Fig. 6 shows an external view of the turn-table in plan, with one of its hinged cover-plates removed. Fig. 7 shows an enlarged vertical section taken near any one of the points X of Fig. 6, showing details hereinafter explained. Fig. 8 shows in cross-section, enlarged, part of the upper portion of the outside rim of the turn-table, (indicated on Figs. 1 and 6 by the letter O.) Fig. 9 shows an enlarged view, partly in cross-section and partly in elevation, of the method of mounting the table upon anti-friction balls.

In said figures the several parts are indicated by letters, as below described.

The letter A indicates the top of the table proper. It is made in halves and united by bolts *r*, passing through flanges B. Hinged flaps *a* form part of the top proper, which flaps turn up on hinges D. Said flaps, when down and in place, rest on ribbed flanges C, which form part of the main top structure, A. The flaps *a* are held closed, preferably by clips, (indicated in Figs. 1 and 6,) at the points L and X, respectively, and shown in Fig. 7 in detail, enlarged. This clip (indicated by the letters M *m*) is known as the "Marshall clip," and forms no part of this invention. An annular grooved girder-support, E, carries the anti-friction balls G G, and is held in place on the foundation-plate P, which forms part of the outer rim or ring, O, of the turn-table. The lugs *f* on the foundation-plate P are of sufficient height to permit of the lining up of the girder-support E and to still retain the lower flanges of said girder-support between said lugs. This construction enables compensation to be made for the wear of the balls G by said lining up. The upper frame or top structure A is located on the balls G and retained thereon by means of annular grooved ribs S, Fig. 2, which are cast on the under side of said structure and are reenforced by means of radial ribs F. Similar grooved ribs are also cast on the under side of each lifting-flap *a*, which, forming a part of the same, are lifted up therewith. The foundation-plate P is cored out, as shown at the several points *g*, to secure lightness in weight of same. The outer rim or ring, O, is preferably made in two or more parts, arcs of circles, and united by splice-bars K K, as seen in Fig. 5; but, if desired, the whole rim can be made in one piece. This same division into arcs of the circle may be also applied to the top structure A, which parts may be similarly or otherwise united, as may be preferred. The ribbed flanges *c*, which form parts of the solid portion of the top A, are recessed or offset, as shown in Fig. 3, so that the flap-covers *a* when closed are supported and lie flush with the rest of the surface at the top. The grooved girder E has its web cored out at intervals, as at *e*, Fig. 2, in order to secure lightness of weight. The outside rim, O, is so shaped that its upper edge, J, permits of free passage of any dirt that may lodge between the top A and said rim. The details of the clip-fastenings L, (shown in Fig. 7,) need no further explanation than already given, M indicating the clip and *m* the key, and L the recess in the hinged flaps *a*, in which the head of each clip is sunk flush with or below the top surface, and the lower portion, H, of the top A being tapered to permit of the easy descent of dirt downward into the pit. The top A in Fig. 6 shows the generally-preferred way of roughening or fluting its surface; but any other method of accomplishing the same result may be used.

In turn-tables heretofore used access to their interiors is only obtained by a comparatively

small center plate, or by the removal of the whole top; but in the turn-table herein described the flaps *a*, of which any desired number can be used, may be turned up on their hinges or simultaneously removed, when the whole interior becomes visible and accessible. A very large extent of the interior is thus easily and quickly exposed for repairs or other purposes.

In Fig. 9 it will be observed that the upper grooves entirely shield and envelop the lower grooves, and therefore thoroughly protect them from the entrance of dirt, so that when the turn-table is in readiness for use the upper shield (indicated by the spaces T) entirely incloses the balls G, and thus accomplishes the desired result. Such construction, if applied to the ordinary turn-table, would render the balls entirely inaccessible; but in this invention the lifting-plates or hinged flaps *a* render said balls perfectly accessible.

The letter R indicates an angle-piece either cast or bolted on or otherwise secured to the rim J, to provide a connection between the turn-table and the rails of the car-track.

Having thus fully described my said improvement in turn-tables, as of my invention I claim—

1. In a turn-table, a lifting flap or flaps, as *a*, provided with an overhanging groove or grooves, substantially as and for the purposes set forth.

2. In a turn-table, a lifting flap or flaps, as *a*, provided with an overhanging groove or grooves secured thereto so as to lift therewith, substantially as and for the purposes set forth.

3. In a turn-table, recesses, as L, formed in top plates or flaps thereof, whereby provision is made for the insertion of clips or other fastenings for holding said plates in place, substantially as and for the purposes set forth.

4. In a turn-table foundation, lugs or guideways, as *f*, in combination with ball-guides, as E, whereby provision is made for securing said guides in place, lining them up when required, and also for their ready removal, substantially as and for the purposes set forth.

ARTHUR J. MOXHAM.

Witnesses:
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W. F. GOUDER.