

T. C. CLARKE & A. BONZANO.

Improvement in Turn-Table for Swing Bridges.

No. 132,254.

Patented Oct. 15, 1872.

Fig. 1

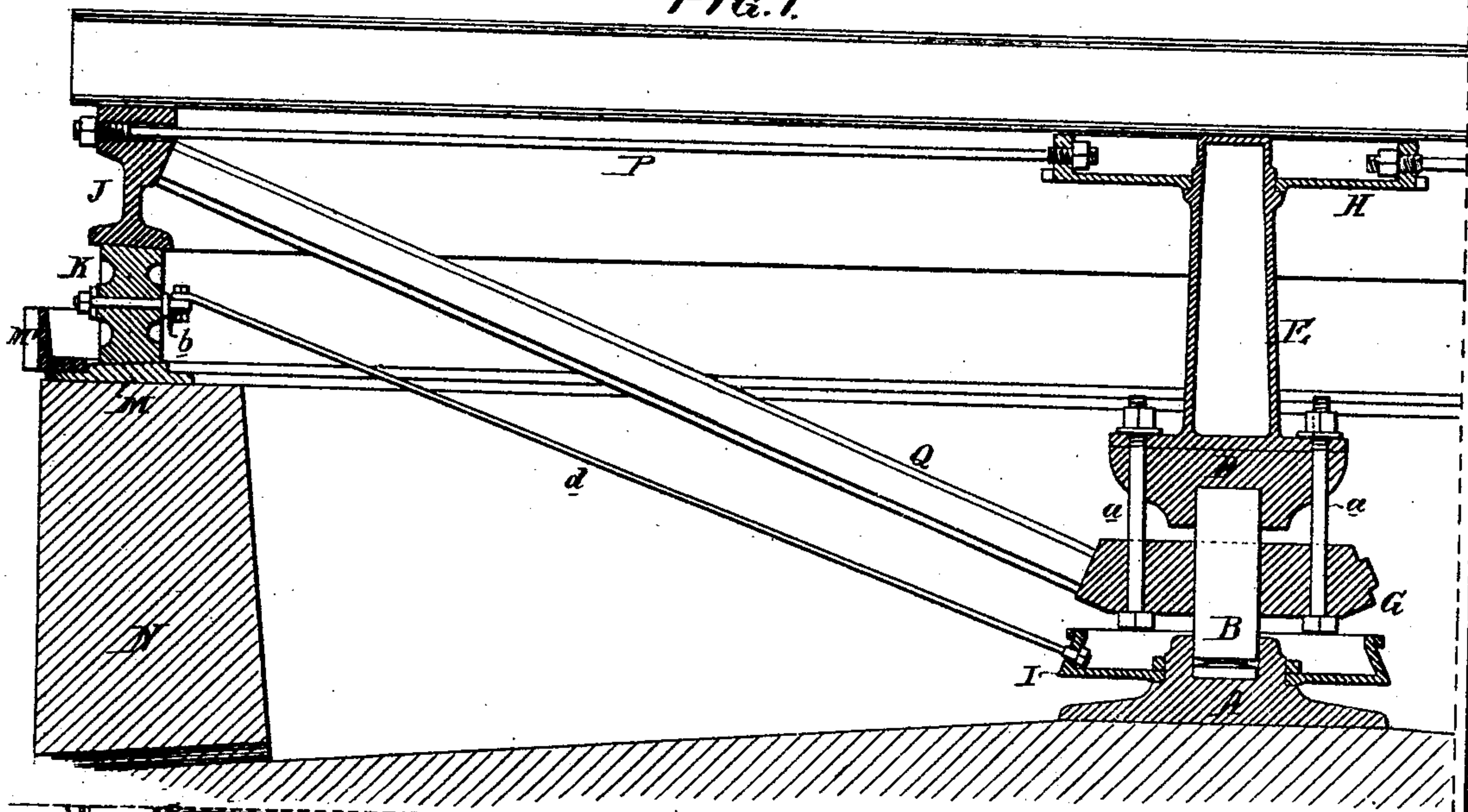
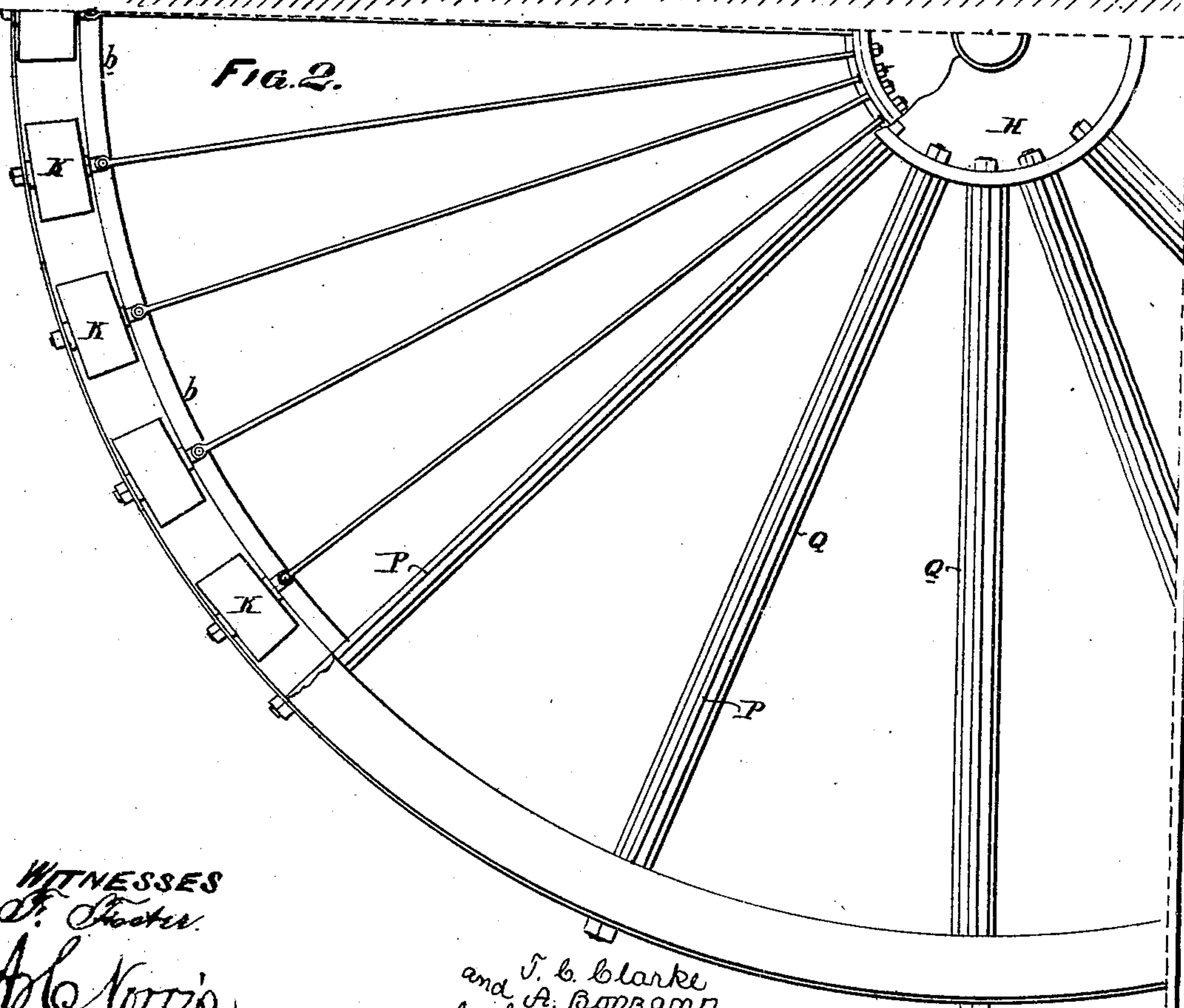


Fig. 2.



WITNESSES
J. Foster.
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UNITED STATES PATENT OFFICE.

THOMAS C. CLARKE, OF PHILADELPHIA, AND ADOLPHUS BONZANO, OF PHOENIXVILLE, ASSIGNORS TO CLARKE, REEVES & CO., OF PHILADELPHIA, PENNSYLVANIA.

IMPROVEMENT IN TURN-TABLES FOR SWING-BRIDGES.

Specification forming part of Letters Patent No. 132,254, dated October 15, 1872.

To all whom it may concern:

Be it known that we, THOMAS C. CLARKE, of Philadelphia, and ADOLPHUS BONZANO, of Phoenixville, Pennsylvania, have invented an Improvement in Turn-Tables for Swing-Bridges, of which the following is a specification:

Our invention relates to an improvement in the turn-table for which Letters Patent were issued to A. Bonzano on the 21st day of May, 1872, our present improvements, which are too fully explained hereafter to need preliminary description, being directed more especially to the maintenance of the rim in a true condition, and to the ready vertical adjustability of the said rim.

In the accompanying drawing, Figure 1 is a vertical section of our improved turn-table for swing-bridges, and Fig. 2 a plan view of part of the table.

A is the foundation-plate, containing a recess or socket for the reception of the lower end of the central pin or pivot B, the upper end of which enters and supports a substantial casting, D, to which a central post, E, is secured by bolts *a*, the latter passing through a hub, G, which can slide on the pivot-pin, and be raised or lowered on the same by means of the said bolts *a a*. To the top of the central post is fitted a flanged disk, H, referred to hereafter, and a similar flanged disk, I, is so connected to the plate A that it can turn freely thereon without being permitted to move vertically.

Having described the parts which compose the nave of the turn-table, we will now proceed to explain the mode of connecting this nave to the rim, which consists, in the present instance, of an annular and comparatively shallow girder, J, of cast-iron, resting on numerous rollers K, the pins of which are connected to annular ribs *b*, of angle-iron, and also by inclined radial rods *d* to the flange of the disk I, the rollers bearing on a circular plate, M, resting on the foundation N. To this circular plate M is secured an annular rack, M', by the aid of which and a pinion gearing into the teeth of the rack the turn-table is caused to revolve in a manner too well understood to need description. A series of radial tie-rods,

P, connect the annular girder to the flanged disk, and a series of radial struts, Q, extend from the hub G of the nave to the annular girder.

In the girder for which Letters Patent were issued to A. Bonzano on the 21st day of May, 1872, similar struts extend from a permanent part of the frame to the rim, each strut being provided with an adjusting-screw bearing against the said rim, the vertical adjustment of which is accomplished partly by the screws on the struts and partly by the radial rods which connect the nave to the rim.

While the desired vertical adjustment of the rim may be accomplished with accuracy by skillful engineers who are familiar with the structure, the screws between the outer ends of the struts and the rim may be so operated by unskilled attendants as to force the rim out of true, thereby impairing the entire structure and rendering the gearing for turning the table defective in its operation; hence, in our present invention, we discard the adjustable struts and use permanent struts Q, each of which bears at one end directly against the hub G, and at the opposite end directly against the annular girder J, the rods P serving to confine the whole permanently together. As the rim is thus rigidly and permanently connected to the nave there can be no fear of the former getting out of true; at the same time the rim admits of being adjusted vertically to a limited extent desired by turning the nuts of the bolts *a a*.

There are cases in which the nature of the foundation renders the use of a deep annular girder or rim, like that described in our aforesaid application, advisable; but we prefer, in making an entirely new structure, to use a comparatively shallow girder, J, as being more easily retained in a true condition than a deep girder. For the shallow girder we build on the foundation, on which the central plate H rests, an annular wall, N, on which the circular plate M rests, the foundation from the central plate outward having a slight downward inclination, so that the pit formed by the annular wall may be effectually drained, the waste water passing off through suitable pipes or ducts in the wall.

We claim as our invention—

1. A turn-table in which an annular girder is connected to a nave by radial rods P, and by permanent struts Q, fitted at one end directly to the girder and at the other end directly to a vertically-adjustable portion of the nave, as set forth.

2. The within-described nave, consisting of the disk I adapted to the permanent pivot-plate, the pivot B supporting the casting D, post E, and disk H, and the hub G forming abutments for the struts Q, and rendered vertically adjustable on the pivot, all substantially as set forth.

3. The combination of the within-described turn-table and its shallow girder J with the annular foundation-wall N, forming a pit.

In testimony whereof we have signed our names to this specification in the presence of two subscribing witnesses.

THOS. C. CLARKE.

ADOLPHUS BONZANO.

Witnesses to the signature of T. C. CLARKE:

WM. A. STEEL,

HARRY SMITH.

Witnesses to the signature of A. BONZANO:

P. G. CAREY,

M. G. LIPPERT.