

No. 645,689.

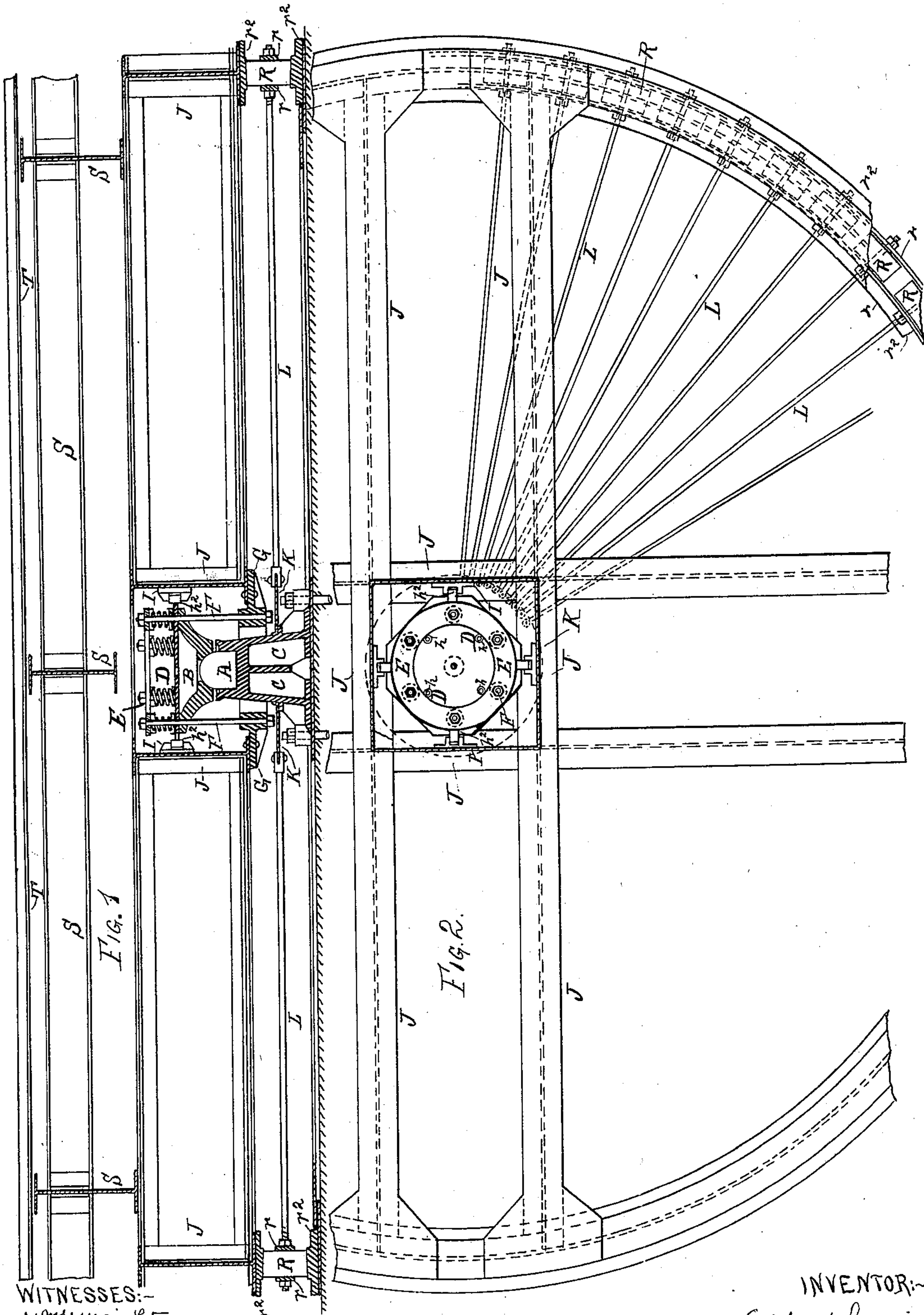
Patented Mar. 20, 1900.

A. LUCIUS.
DRAWBRIDGE.

(Application filed Dec. 12, 1899.)

2 Sheets—Sheet 1.

(No Model.)



WITNESSES:
Wm. H. Lightman
and
Cramer

INVENTOR:
Albert Lucius

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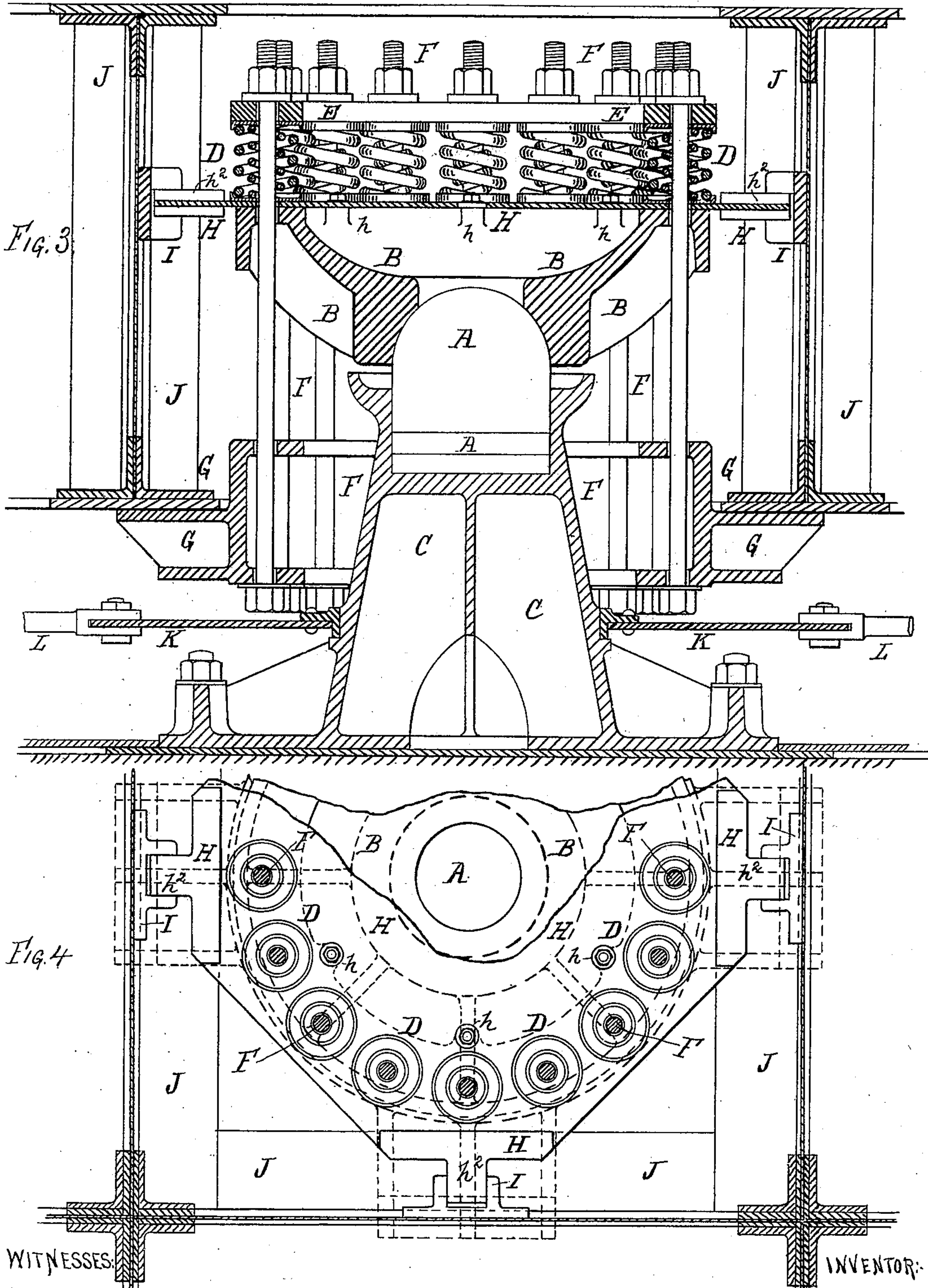
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UNITED STATES PATENT OFFICE.

ALBERT LUCIUS, OF NEW YORK, N. Y.

DRAWBRIDGE.

SPECIFICATION forming part of Letters Patent No. 645,689, dated March 20, 1900.

Application filed December 12, 1899. Serial No. 740,108. (No model.)

To all whom it may concern:

Be it known that I, ALBERT LUCIUS, a citizen of the United States, residing in the city and State of New York, have invented certain new and useful Improvements in Draw-bridges, of which the following is a specification, reference being had to the accompanying drawings.

My improvements relate to swivel or swing bridges, turn-tables, and like appliances; and the objects of such improvements are, first, to provide for a specially-developed and predetermined weight, pressure, or load upon the pivotal center or post, such weight, pressure, or load being a predetermined division or portion of the whole weight, pressure, or load of the bridge itself, the remainder being put upon or carried by a plurality of periphery-rollers of the bridge turn-table; second, to provide for an automatic adjustment of the several portions of the turn-table to suit any settlement of the supporting-foundation, and, third, to provide for a ready connection between the revolving portion of the pivotal center and the body of the turn-table, whereby the swinging or circular movement of the bridge turn-table is securely transmitted to the said revolving portion of the pivotal bearing. I attain these several objects by the mechanism illustrated in the accompanying drawings, in which—

Figure 1 represents a sectional elevation of drawbridge turn-table embodying my improvements. Fig. 2 represents a plan view of the same, the central portion being shown partially in section to clearly illustrate the sliding connection between the revolving pivot-cap and the body of the turn-table. Fig. 3 represents an enlarged sectional elevation of the pivotal portion of the turn-table. Fig. 4 represents a sectional plan view of a portion of the pivotal center.

In the several figures of the drawings letter A designates a hemispherical pivot resting within a foundation-pedestal C.

Letter B designates a wearing-cap provided with a concave portion to wear upon the hemispherical pivot A. Resting upon and securely fastened to the socket-cap B by means of bolts h is a connecting-plate H, provided with a plurality of slide projections h^2 , which are fit-

ted to move up and down within the associated guides I.

Letter D designates a cushion composed of a plurality of spiral springs bearing and acting between plate H and a circular or compound washer E, the adjusting rods or bolts F confining the spirals to operative positions. The lower ends of the adjusting-rods F are attached to a strain-block G, secured to the main body J of the turn-table body. The cushion portion D is brought to a greater or less compression, as desired, by screwing down the nuts on the adjusting-rods F.

Letter K designates a central revolving plate, and L a plurality of radial rods controlling the circular position and movement of the periphery-rollers R. The rollers R are set in close position with each other about the circle to spread the load carried over a liberal surface, the circles r keeping them at proper working distance from each other. Letter r^2 designates upper and lower circular path-plates for rollers R.

S designates a portion of the swing-bridge construction, and T the rails for car-wheels.

In the erection of the swivel-bridge, as illustrated, the pedestal C is securely anchored to the turn-table foundation. The revolving plate K, with the radial rods L and attached rollers R, and the lower path-plate for the rollers are put in position. The turn-table body J, with the attached strain-block G and guides I, is then erected in position to rest its full load upon the periphery-rollers R and the adjusting-rods F put in position. The hemispherical pivot A is then inserted in pedestal C and the wearing-cap B put in place over the pivot. As a cover and protection to the pivotal bearing plate H is next placed above the wearing-cap B and securely fastened by bolts h , a suitable number of slide projections h^2 being attached to connect or mesh with the guides I, attached to the central body of the turn-table. The several springs of cushion D are next put in position over the adjusting-rods F and washer E put to act as a follower, the several adjusting-rods passing through springs and washer and the nuts screwed down upon the adjusting-rods until the desired compression of cushion D is effected. This compression is transmitted

through plate H and the wearing-cap B to the pivotal bearing A. The turn-table being in position, any desired division of the whole weight, pressure, or load of the turn-table or swing-bridge may be made and any desired portion thereof may be brought to bear upon the pivotal bearing through a greater or less compression of the cushion D, variable within the limits of settlement of any portion of the foundation, whether it be at the periphery beneath the rollers or at the center beneath the pivot-pedestal.

In the operation of the swing-bridge or its turn-table, any and all of its revolution or swing motion is transmitted through the guides I, slide projections h^2 , and plate H to the wearing-cap B, relieving the adjusting-rods F of all undue and improper side or twisting strain.

With any settlement of the foundation at the center or beneath the pivot-pedestal C the pedestal moves down with it, carrying pivot A and wearing-cap B, with attached plate H, relieving the springs of cushion D, the distance of said settlement slightly reducing their compression. Should the settlement take place at or beneath the periphery-rolls R, the compression of the cushion D will be slightly increased.

Either the increased or decreased compression of cushion D may be readjusted by screwing the nuts of adjustment-rods F as may be desired or necessary.

To effect an equivalent result and do away with the tension-rods F, the cushion D may be set to its predetermined compression by the use of compression-rods from above, the strain-block G being placed above instead of below. Compression rods or bolts, acting downward from the main portion of turn-table J against the compound washer E or against individual washers for each spring, would then take the place of the upward-acting tension-rods.

What I claim as new, and desire to secure by Letters Patent, is—

1. In combination with a swing-bridge turn-

table, an elastic pivotal bearing about which it revolves, and means for placing and retaining a predetermined portion of the whole weight of the swing-bridge upon said elastic pivotal bearing, substantially as and for the purposes set forth.

2. In combination with a swing-bridge turn-table, a pivotal bearing about which it revolves, and a cushion of predetermined compression located between said turn-table and said pivotal bearing, substantially as and for the purposes set forth.

3. In combination with a swing-bridge turn-table, a pivotal bearing about which it revolves, a central wearing-cap resting upon said pivotal bearing, a plurality of springs of predetermined compression acting upon said wearing-cap, and a plurality of adjusting-rods connecting said springs with the body of the turn-table, substantially as and for the purposes set forth.

4. In combination with a swing-bridge turn-table, a pivotal bearing about which it revolves, a central wearing-cap resting upon said pivotal bearing, a plurality of springs of predetermined compression acting upon said wearing-cap, a compound washer resting upon said plurality of springs, and a plurality of adjusting-rods connecting said compound washer and supporting-springs with the body of the turn-table, substantially as and for the purposes set forth.

5. In combination with a swing-bridge turn-table, a pivotal bearing about which it revolves, a central wearing-cap resting upon said pivotal bearing and provided with a plurality of slide projections wearing within associated guides attached to the body of the turn-table, a cushion of predetermined compression resting upon said wearing-cap, and a plurality of adjusting-rods connecting said cushion with said turn-table substantially as and for the purposes set forth.

ALBERT LUCIUS.

Witnesses:

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