

G. R. WINKLER.

Improvement in Turn-Bridges.

No. 132,038.

Patented Oct. 8, 1872.

Fig. 1.

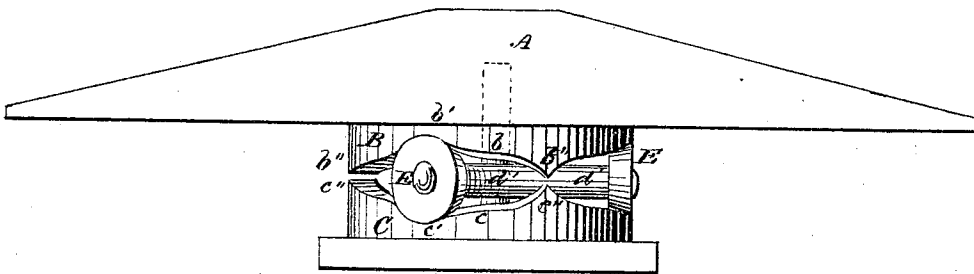


Fig. 2.

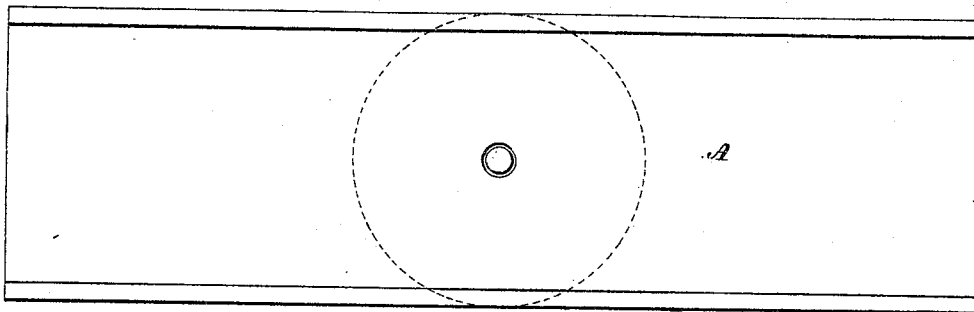
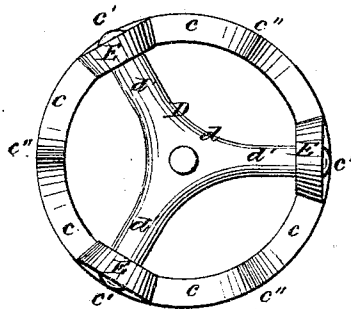


Fig. 3.



Witnesses.

Ab. M. M.
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Inventor.

G. R. Winkler, by
Prindle and Pyer, his
Attys.

UNITED STATES PATENT OFFICE.

GUSTAVUS R. WINKLER, OF WILLIAMSPORT, PENNSYLVANIA, ASSIGNOR TO
BERNHARD BERNETT AND MARTHA WINKLER, OF SAME PLACE.

IMPROVEMENT IN TURN-BRIDGES.

Specification forming part of Letters Patent No. 132,038, dated October 8, 1872.

To all whom it may concern:

Be it known that I, GUSTAVUS R. WINKLER, of Williamsport, in the county of Lycoming, and in the State of Pennsylvania, have invented certain new and useful Improvements in Bridges; and do hereby declare that the following is a full, clear, and exact description thereof, reference being had to the accompanying drawing making a part of this specification, in which—

Figure 1 is a side elevation of my device; Fig. 2, a top-plan view of the same; and Fig. 3, a plan view of the circular track with the spider in position upon it.

Like letters of like kinds denote corresponding parts in each figure.

The nature of the invention relates to turn-bridges, particularly for canals, so constructed that the impact of a passing boat may turn them so as to leave an open channel, and after the boat passes the bridges will return by their own weight to the first position, and be in readiness for travel over them; and the invention consists in the construction, combination, and arrangement of its operative parts, all as more fully hereinafter described.

Upon the under side of the bridge proper, A, the circular rail B is properly secured, which rail has three depressions, *b*, in the center of each of which is another semicircular depression, *b'*, and as many elevations, *b''*. The slope of these depressions *a* is at first abrupt from the points of elevation, then gradually sloping down to the edge of the depression *b'*, where it is again abrupt. The face of the rail B also slopes outwardly a little in all parts. A circular rail, C, alike in all respects of size and shape with the rail B, is placed immediately below it, upon a suitable foundation, and so arranged that when the bridge is in position for travel the points of elevation in one rail are precisely over the similar points in the other rail, and the depressions in one rail are immediately above the corresponding depressions in the other. Between the two rails thus mentioned the spider D, shown particularly in Fig. 3, is placed, which spider has a center, *d*, and three radial arms,

d', upon the ends of which revolve the trucks E, whose edges are beveled inwardly, corresponding with the outward bevel of the rails B and C. A bolt, F, passes down through the center of the spider and into the foundation before spoken of, upon which bolt the spider turns. When this bridge is in position for travel over it the trucks rest in the depressions *b'* in the upper and lower rails, which depressions are of a size and shape to conform to the exterior of the trucks, and the bridge is thus held quite firmly in position. A blow, however, like the impact of a passing boat, will drive the trucks out of these depressions, and, the ascent upon the rails being quite small, the bridge is readily turned until the trucks reach the points of greatest elevation of the rails, where the more sudden pitch of the rails will stop the further movement of the trucks at the point where the bridge is swung at right angles, and the channel is unobstructed. The pressure upon the bridge being removed, it will return by its own weight to the first position.

In the operation of this device the trucks do not only turn upon the rails beneath them, but, by their revolution, they carry the upper rail around, thus diminishing the friction, and, by the combination of the upper and lower slopes acting in unison, lessening the slope required for either. The bevels on the rails and on the trucks being opposite serve to keep the trucks always in position upon and between the rails, and give much greater firmness and stability to the whole structure.

Having thus described my invention, what I claim as new therein, is—

The combination of the spider D, provided with the beveled trucks E, with the similar circular tracks B and C, all constructed, arranged, and operated substantially as described and shown, for the purposes set forth.

In testimony that I claim the foregoing I have hereunto set my hand this 14th day of August, 1871.

Witnesses:

G. R. WINKLER.

M. L. LIGGETT,
J. W. CUMMINGS.

1000 words.