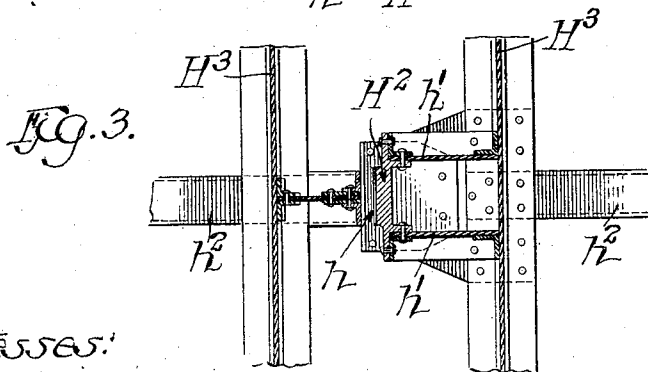
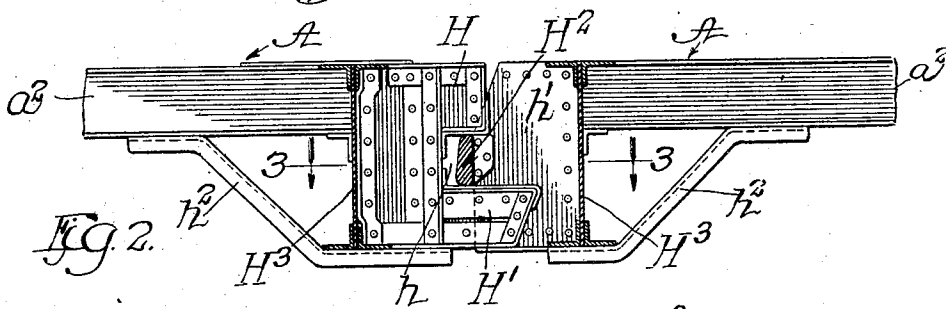


968,988.



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ALBERT H. SCHERZER, OF CHICAGO, ILLINOIS.

CENTER LOCK FOR BASCULE-BRIDGES.

968,988.

Specification of Letters Patent.

Patented Aug. 30, 1910.

Original application filed July 30, 1907, Serial No. 386,255. Divided and this application filed November 26, 1909. Serial No. 529,845.

To all whom it may concern:

Be it known that I, ALBERT H. SCHERZER, a citizen of the United States, of the city of Chicago, in the county of Cook and State of Illinois, have invented certain new and useful Improvements in Center Locks for Bascule-Bridges; and I do hereby declare that the following is a full, clear, and exact description thereof, reference being had to the accompanying drawings, and to the letters of reference marked thereon, which form a part of this specification.

This invention relates to improvements in bascule or lift bridges of that kind wherein the bridge is opened and closed by the swinging movement of two movable leaves in a vertical plane, and more especially to an improved central lock or locking device for connecting with each other the meeting ends of the two leaves when the same are in their lowered or horizontal position.

The invention consists in the matters hereinafter described and pointed out in the appended claims.

My improvements are herein shown as applied to that type of bascule bridge known as a rolling lift bridge, but it may be adapted to other types of bascule bridges having two swinging leaves or spans.

As shown in the accompanying drawings:—Figure 1 is a view in side elevation of a rolling lift bridge having two swinging leaves; one of the leaves with its supporting means being shown in full, and the adjacent end only of a like leaf appearing in the drawing. Fig. 2 is a detail vertical section of the meeting parts of the bridge leaves, showing a central lock embodying my invention. Fig. 3 is a section taken upon line 3—3 of Fig. 2.

As shown in said drawings (Fig. 1) A, A designate the two leaves of the bridge which are alike, although only one of them is shown in full in the drawings. Each leaf A is provided with a rolling segment B arranged in the plane of each of its side trusses at the approach or rear end of the same. Said segment rests and rolls on a track *d* carried by a horizontal girder D supported at its ends on piers B¹, B² located at the shore end of the leaf.

E designates one of the counterweights, which are attached to the bridge trusses, one above each segment B, and which serve to counterbalance the span in the usual man-

ner so as to permit the raising and lowering of the bridge leaf by the exertion of minimum power.

The locking device for connecting the ends of the two leaves with each other is of a kind that may be called a structure lock, that is to say, a lock wherein the interlocking parts thereof are rigid with the structure of the bridge leaves and are brought together, and into interlocking engagement, by the movement of the front ends of the leaves as they are moving downwardly to a closed position. Said locking device comprises upper and lower extensions H, H¹, respectively, carried by and extending forwardly from one of the leaves. The upper locking extension is made shorter than the lower one, and said extensions are separated by a notch or recess *h*. The companion leaf of the span is provided with a horizontal locking member H² which is fixed to upright parallel plates or webs *h*¹, *h*¹ extending forwardly from said leaf and said locking member H², when the leaves occupy their closed position, is engaged with the extensions H, H¹ between the latter, while the lower extension H¹ is located within the space between the laterally separated plates *h*¹, *h*¹. The upper extension H is short enough to permit the locking member H² to swing into the notch *h* during the closing movement of the leaves, while the longer extension H¹ serves to limit the downward movement of the leaf carrying the locking member H² and guides the latter into the notch as the leaves approach their closed position.

The locking members or projections H, H¹ are secured to a transverse girder H³ which extends across the front end of the floor structure of the leaf, while the plates *h*¹ of the locking member H² are likewise secured to the transverse girder H³ of the other leaf, the parts being braced to longitudinal beams *a*², *a*² of the leaf structures, by bracing members *h*², *h*². It will be understood that said locking members are located adjacent to the planes of the trusses at the lower chords thereof, there being two pairs of such locking devices usually applied to each two-leaf span.

It will be understood that in closing the bridge provided with a locking device such as described, the leaf carrying the two projections H, H¹ will usually be lowered in advance of the other leaf, until the projec-

tions on the two leaves reach such relative positions that by accelerating the downward movement of the span carrying the locking member H^2 , the latter will pass the upper or shorter projection H and come in contact with the outer part of the lower and longer projection H^1 . Thereafter both of the leaves will be lowered together, or at the same rate of speed, so that the locking member H^2 will slide inwardly along the upper face of the lower or longer projection H^1 , until it enters beneath the upper and shorter projection H and is engaged with both projections H and H^1 .

It will be observed that the locking device made as described not only strongly and rigidly holds the meeting ends of the two leaves from vertical movement relatively to each other, but also from relative lateral movement; the engagement of the lower and longer projection H^1 with the parallel, upright plates h^1 , h^1 serving to prevent any lateral shifting of one member of the locking device with relation to the other member thereof.

It is to be understood that in carrying out my invention, members on the meeting ends of two bridge leaves, arranged and operating as described, may be constructed in any desired or preferred manner, and may be attached or secured to the leaves by any desired or preferred form of connecting or attaching means, and I do not, therefore, desire to be limited to the details of construction illustrated in the accompanying draw-

ings, either in the structure of the locking members themselves or in the means by which they are rigidly attached to the frame members of the leaves.

I claim as my invention:—

1. In a bascule bridge comprising two swinging leaves, locking means for the meeting ends of the leaves comprising two rigid, horizontal locking extensions on one end of one of the leaves, separated vertically to form a recess or notch, and a transverse locking member on the end of the other leaf, adapted to enter said notch, the locking extension beneath the notch being longer than the one above it.

2. In a bascule bridge comprising two swinging leaves, locking means for the meeting ends of the leaves comprising two vertically separated locking projections on one of the leaves, a transverse, horizontal locking member on the other leaf adapted to enter the space between said locking projections, and vertical, parallel plates upon said other leaf to which the ends of the transverse member are attached and which are adapted to receive the lower locking projection.

In testimony, that I claim the foregoing as my invention I affix my signature in the presence of two witnesses, this 15th day of November A. D. 1909.

ALBERT H. SCHERZER.

Witnesses:

T. H. ALFREDS,
CLARENCE E. MEHLHOPE.