March 31, 1931. J. B. STRAUSS 1,798,506

DOUBLE DECK BASCULE BRIDGE

Filed March 1, 1926 3 Sheets-Sheet 1

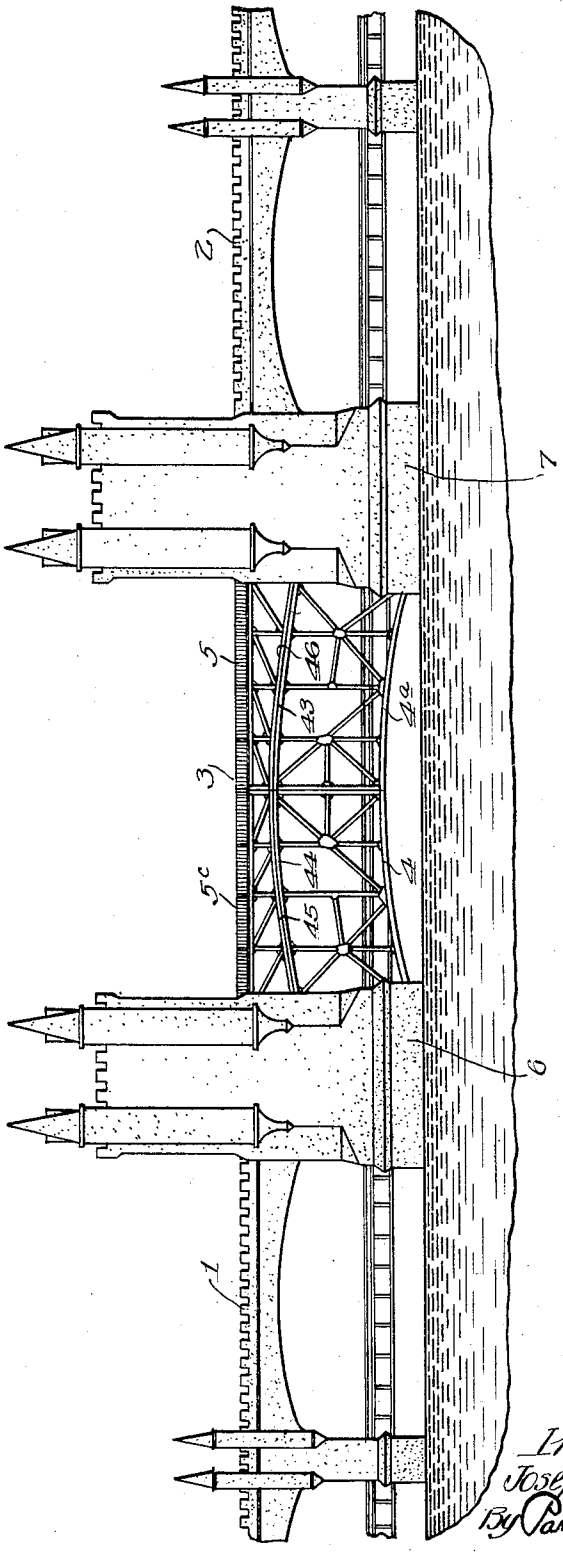

Fig. 1

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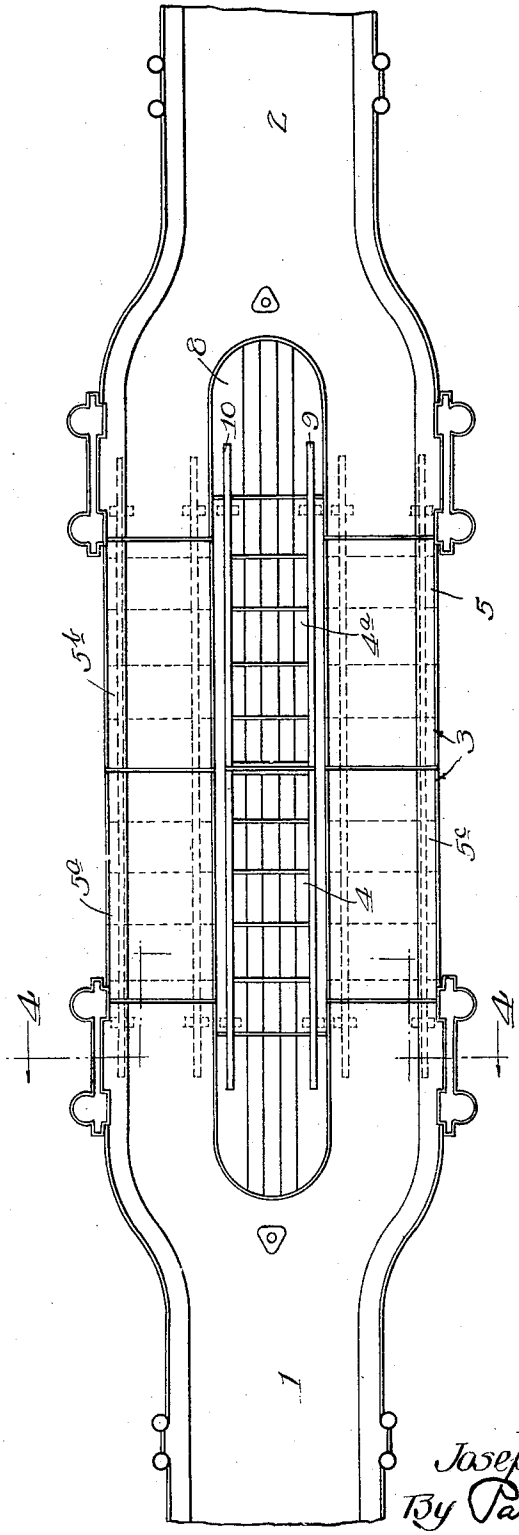

Fig. 2

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Fig. 3

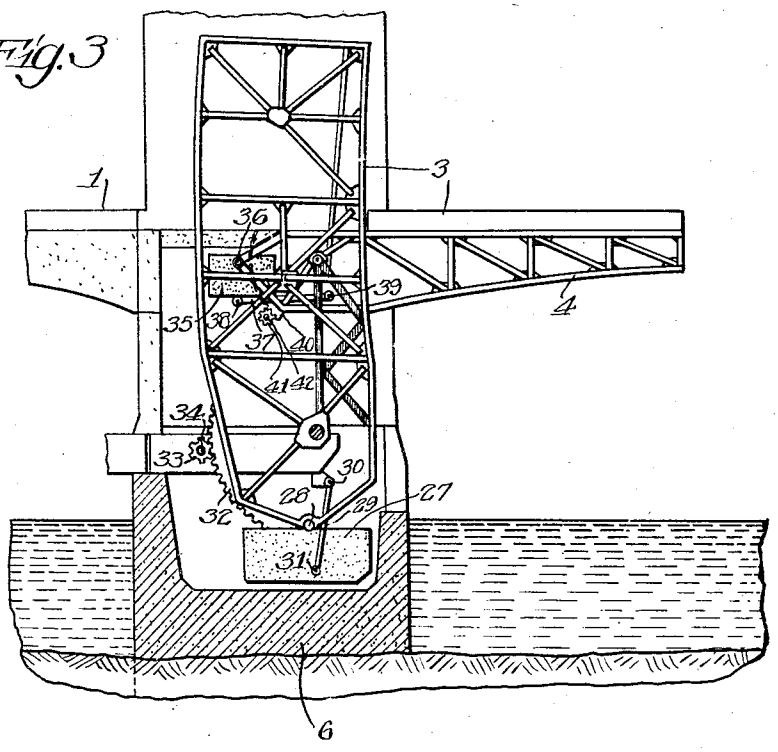
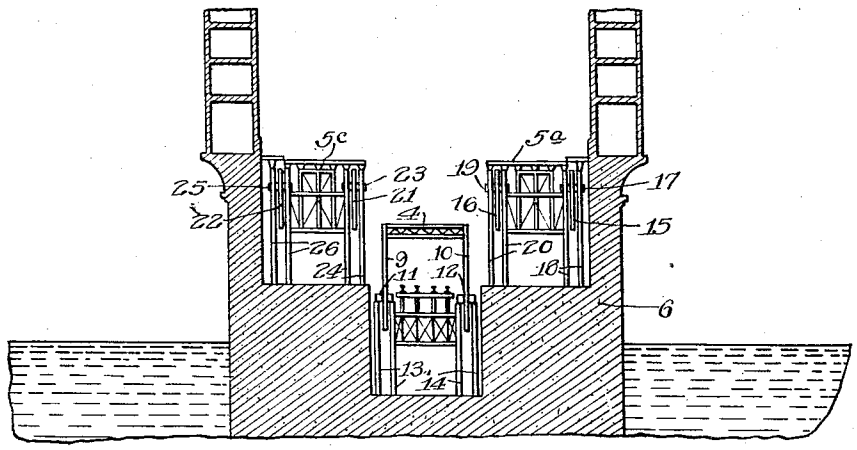


Fig. 4



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UNITED STATES PATENT OFFICE

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DOUBLE-DECK BASCULE BRIDGE

Application filed March 1, 1926. Serial No. 91,442.

This invention relates to double deck bascule bridges and has for its object to provide a new and improved device of this description.

The invention has as a further object to provide a double deck bascule bridge wherein there are upper and lower bascule leaves which can be opened independently.

The invention has as a further object to provide a double deck bascule bridge arranged so that the lower deck can be opened for small boats and both decks opened for larger boats.

The invention has further objects which are more particularly pointed out in the accompanying description.

Referring now to the drawings:

Fig. 1 is a side elevation of one form of bridge embodying the invention.

Fig. 2 is a plan view of the device illustrated in Fig. 1.

Fig. 3 is a view in part section showing the lower leaf opened and the upper leaf closed.

Fig. 4 is a sectional view taken on line 4—4 of Fig. 2.

Like numerals refer to like parts throughout the several figures.

In the drawings I have illustrated a bridge consisting of the fixed portions 1 and 2 and the movable or bascule portion 3. The bridge has two decks, an upper deck and a lower deck. The upper and lower decks of the movable portion 3 are made of bascule leaves. The lower deck consists of the bascule leaves 4 and 4ª and the upper deck is provided with bascule leaves 5 and 5ª. These bascule leaves are mounted upon the piers 6 and 7.

The bascule leaves are arranged so that the lower leaves can be opened independent of the upper leaves and vice versa. The lower leaves are longer than the distance between the lower and upper leaves. When, for example, a vessel having a height which will permit it to go under the upper deck, desires to go through the bridge it is only necessary to open the lower bascule leaves 4 and 4ª. When a vessel is of such height that it cannot go under the upper deck then both the lower and upper bascule leaves are opened. Some means is provided for permitting the lower bascule leaves to be opened without opening the upper leaves and without interfering with the use of the upper leaf. In the construction shown the upper deck is provided with an opening 8 and the lower bascule leaves 4 and 4ª are located under this opening so that when they are opened they will project through this opening thereby permitting them to be opened without opening the upper bascule leaves. The upper device has a roadway at one or both sides of the opening through which the lower leaf projects when lifted, so that the upper roadway or roadways may be used without interference when the lower leaf is open.

In the construction shown there are two lower bascule leaves and four upper bascule leaves, two of them, 5 and 5ª being at one side of the opening 8 and the other two, 5ᵇ and 5ᶜ being on the opposite side of the opening 8. It will thus be seen that the lower leaves and the upper leaves are out of alignment.

The bascule leaves may be mounted in any desired manner. As shown in Fig. 4, for example, the lower bascule leaf 4 is provided on opposite sides with the trusses 9 and 10 which are mounted upon trunnions 11 and 12 carried by supports 13 and 14 supported upon the pier 6. The upper bascule leaf 5ª is provided with the trusses 15 and 16. The truss 15 is mounted on trunnions 17 which are supported on the supports 18 on the pier 6. The truss 16 is mounted on trunnions 19 carried by the supports 20 on the pier 6. The upper bascule leaf 5ᶜ is provided with the trusses 21 and 22. Truss 20 is mounted upon the trunnions 23 carried by the supports 24 mounted on the pier 6. The truss 22 is mounted on trunnions 25 carried by the supports 26 on the pier 6.

In Fig. 3 I have shown one of the lower leaves open and one of the upper leaves closed. It will be understood that the two lower leaves are similar and that the four upper leaves are similar. Each lower leaf is provided with a counterweight 27 connected with the leaf by the pivot 28. In the particular construction shown there is a lever 29 which is connected by pivot 30 with a fixed part of the structure and by pivot 31 to the

counterweight, the purpose of this lever is to hold the counterweight in a horizontal position. The bascule leaf is provided with a rack 32 which is engaged by a pinion 33 connected with the driving shaft 34.

The upper leaf is provided with a counterweight 35 which is pivoted thereto by a pivot 36 and which is also provided with the rod 37 pivoted to the counterweight by the pivot 38 and a fixed part of the structure by the pivot 39. The upper leaf is provided with a rack 40 which is engaged by a pinion 41 on the driving shaft 42.

When it is desired to pass a small boat through the bridge only the lower leaves 4 and 4ª are opened. These leaves when opened project up through the opening 8 in the upper deck thereby opening the passageway under the upper leaves.

When it is desired to pass a larger boat through the bridge the lower and upper leaves are all opened thereby opening the complete passageway.

I prefer to arrange the upper and lower leaves so that lines coordinate to give an artistic effect. In the construction shown the upper chords 43 and 44 of the lower leaves harmonize with the lower chords 45 and 46 of the upper leaves as shown in Fig. 1. In the particular construction illustrated the upper chords of the lower leaves and the lower chords of the upper leaves are similar arcs of circles.

I have described in detail a particular construction embodying the invention but it is, of course, evident that the parts may be varied in many particulars without departing from the spirit of the invention as embodied in the claims hereto appended, and I therefore do not limit myself to the particular construction shown.

I claim:—

1. A bascule bridge comprising two separately pivoted bascule leaves, one above the other the vertical distance between said leaves being less than the distance the end of the lower leaf moves upwardly when moved to its open position, both spanning a common portion of the space to be spanned but at different elevations, and means for operating said leaves independent of each other.

2. A bascule bridge comprising two bascule leaves, a support with which they are pivotally connected, one of the leaves being located above the other, both spanning a common portion of the space to be spanned but at different elevations, and means for opening the lower leaf while the upper leaf remains closed.

3. A bascule bridge comprising two decks, one above the other, a pivoted leaf associated with each deck, means for operating the lower leaf when the upper leaf is closed, said upper deck being provided with an opening into which the end of the lower leaf is received when said lower leaf is in its open position, the upper deck having a roadway at the side of said opening which remains in use when the lower leaf is open.

4. A bascule bridge comprising two decks, one above the other, a pivoted leaf associated with each deck, means for operating the lower leaf when the upper leaf is closed, said upper deck being provided with an opening into which the end of the lower leaf is received when said lower leaf is in its open position, the upper deck having a roadway at the side of said opening which remains in use when the lower leaf is open, and means for opening said upper leaf while the lower leaf is in its open position.

5. A double deck bascule bridge comprising two pivoted bascule leaves, one above the other and having different upper and lower chords, the leaves being in different vertical planes longitudinally of the leaves, the upper chord of the lower bascule leaf cooperating with the lower chord of the upper bascule leaf being of the same general contour as the lower chord of the upper bascule leaf but below it.

Signed at Chicago, county of Cook and State of Illinois, this 23rd day of February, 1926.

JOSEPH B. STRAUSS.