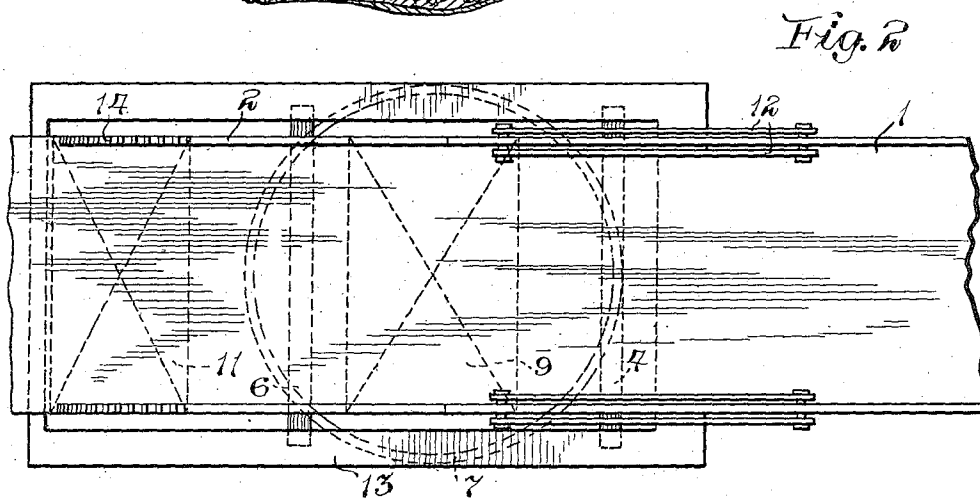
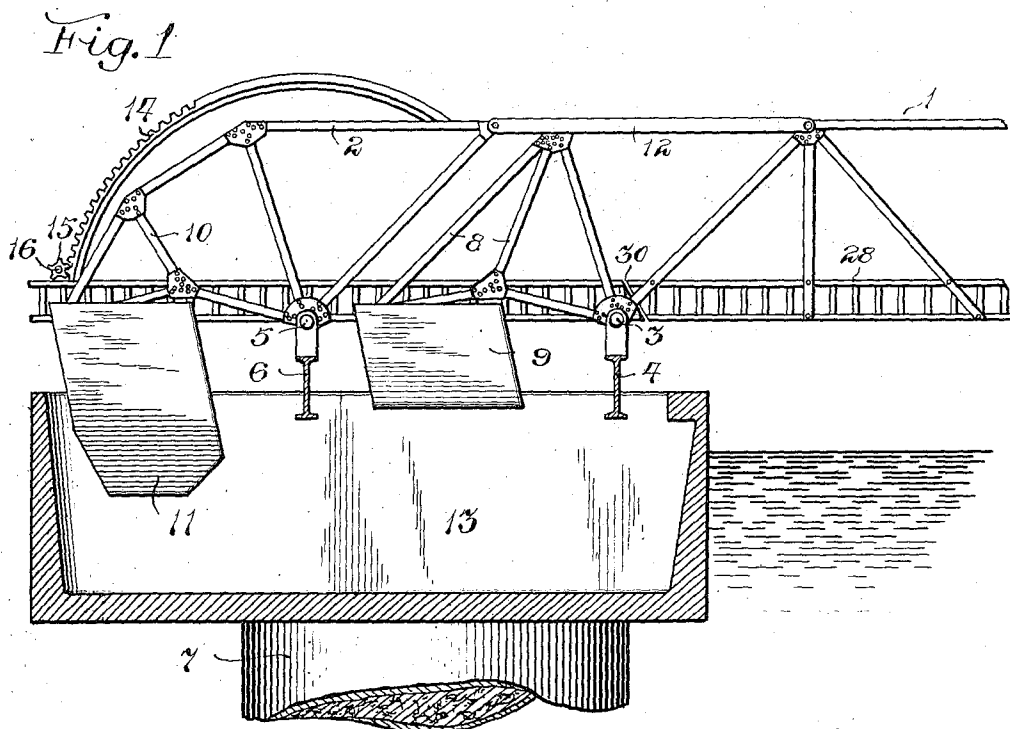


J. B. STRAUSS.
BRIDGE,
APPLICATION FILED AUG. 29, 1913.

1,241,052.

Patented Sept. 25, 1917.
2 SHEETS—SHEET 1.



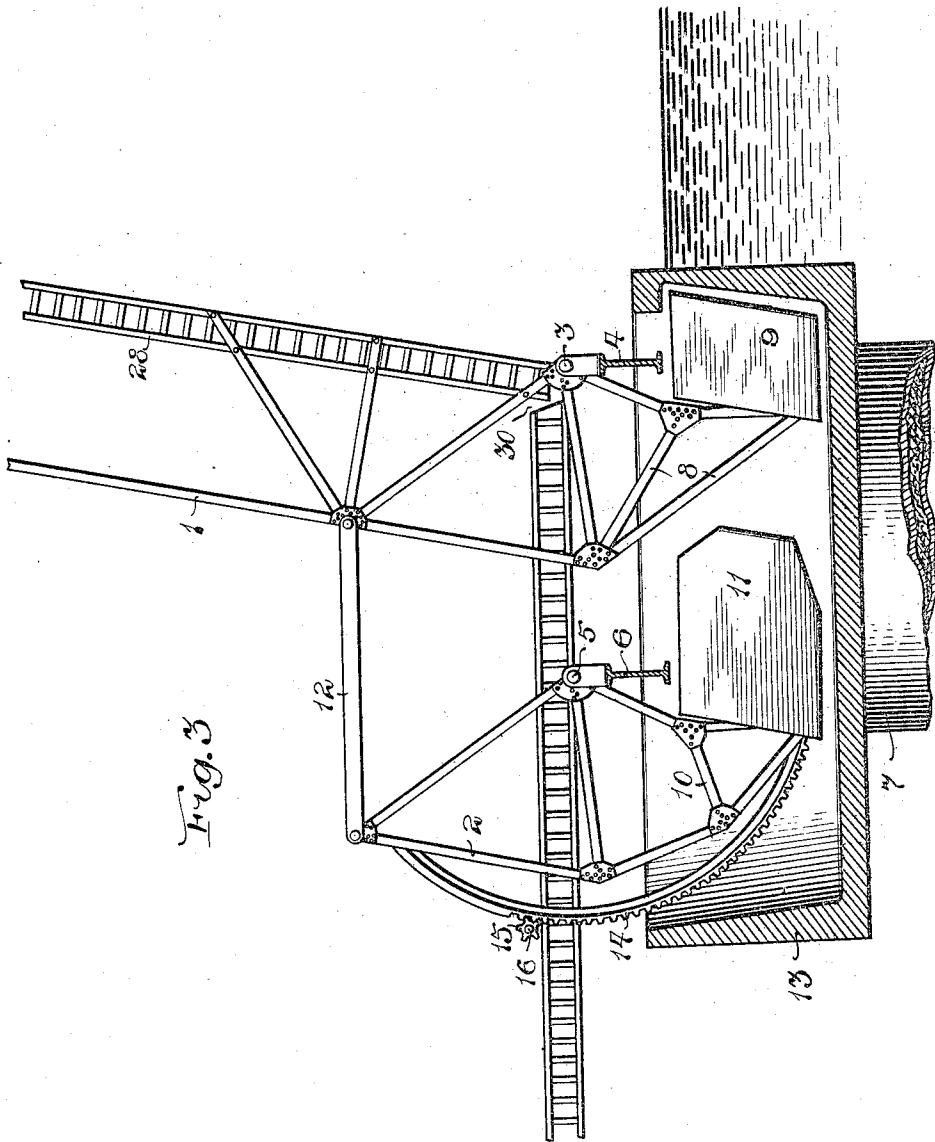
WITNESSES:
Chas. R. Koush.

INVENTOR.
Joseph B. Strauss.
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UNITED STATES PATENT OFFICE.

JOSEPH B. STRAUSS, OF CHICAGO, ILLINOIS.

BRIDGE.

1,241,052.

Specification of Letters Patent.

Patented Sept. 25, 1917.

Application filed August 29, 1913. Serial No. 787,251.

To all whom it may concern:

Be it known that I, JOSEPH B. STRAUSS, a citizen of the United States, residing at Chicago, in the county of Cook and State of Illinois, have invented a certain new and useful Improvement in Bridges, of which the following is a specification.

This invention relates to bridges and has for its object to provide a new and improved device of this description. The invention is illustrated in the accompanying drawing, wherein—

Figure 1 is a view showing one form of the invention.

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

Fig. 3 is a view similar to Fig. 1 showing the bridge open.

Like numerals refer to like parts throughout the several figures.

Referring now to the drawings, I have shown a bridge made up of two sections, 1 and 2. These sections are independently mounted and have separate counterweights. The sections are connected together so that the counterweight of one section acts to help counterbalance the other section. The main section 1 is mounted upon the trunnion 3, carried by the cross support 4. The span 2 is mounted upon the trunnions 5, carried by the cross support 6, said cross supports being carried by the pier 7.

The main section 1 is provided with a rear end portion 8 of rigid members, which project rearwardly from the trunnions 3 and to which is connected a counterweight 9. The main section 2 is provided with a rearwardly projecting portion 10, which projects behind the trunnion 5 and to which is connected the counterweight 11. The two main sections are connected together in any desired manner, so that the counterweight of one section acts to help counterbalance the other section. As herein shown, the main section 2 is connected with the main section 1 by the connecting pieces 12, located at opposite sides of the section.

The floor of the bridge passes along both sections, part thereof being mounted upon one span and part upon the other span. The counterweights extend across the space between the trusses and are mounted one behind the other, so as to clear each other as the bridge opens. The pier, as illustrated in Figs. 1 and 2, is provided at the top with an open trough 13, forming part of the pier

and arranged to permit the counterweight to pass below the water line, without becoming immersed in the water. It will be noted that this construction, among other advantages, permits the installation of a bascule bridge with a large counterweight such as are made from concrete, and where the vertical distance for the counterweight is very limited and where a single section with a single counterweight could not be installed. This construction therefore permits the use of a large cheap counterweight, where heretofore such a counterweight could not be used.

When a bascule bridge is in its open position the wind stresses on the structure are often very great and in the ordinary bascule bridge these wind stresses are taken up by the operating mechanism. In the present construction I provide means for transferring the wind stresses to the supports without their passing through the operating mechanism, that is to say, the operating mechanism is used in this construction for moving the bridge and I provide a separate mechanism independent of the operating mechanism for holding the bridge in its open position.

Referring now to Fig. 1, the operating mechanism consists of a rack 14, carried by the main span 2, said rack being engaged by a pinion 15 on the shaft 16, operated by a suitable motor. The bridge when open is held in any of its various open positions by a holding mechanism separate from the operating mechanism, said holding mechanism, consisting of the member 17 pivotally connected to the main span 1 and passing between the two plates or members 18, fastened to a fixed part 19. Some means is provided for clamping the member 17 between the members 18, when it is desired to hold the bridge. As herein shown, members 18 are moved to and from each other by means of a screw 20, controlled by a wheel 21, which may be operated by hand, or any other source of power.

At the end of the members 18, I prefer to provide a brace 22, adapted to be engaged by the end of one of the parts 18, so that when the screw is turned to move the members 18 toward each other to clamp the member 17, one of the members 18 will engage the brace 22, thereby increasing the leverage.

The section 2 is provided with a rack 14 which engages the pinion 15 on the shaft 16

operated by a suitable motor not shown. The floor 28 is arranged so that the portion ahead of the support for the trunnions of the section 1 is separated from the remaining
5 portion, the separation being at the point 30 so as to permit that portion of the floor from the point 30 to the outer end of the section 1 to move with said section when the bridge is open. It will thus be seen that
10 in this construction the bridge is made up of two sections in tandem, that is, one is arranged directly behind the other, that is, both sections being on the same side of the spaces spanned by the bridge and that both
15 of these sections open in the same direction.

I claim:

1. A bridge comprising two sections adjacent to each other and on the same side of the space to be spanned, said sections opening in the same direction, each section movably mounted in position, a counterweight connected with each section near the tail end thereof which acts as a counterbalance, one of said counterweights being heavier than
25 required to counterbalance the section to which it is attached and a movable connection between the two sections so that they move in unison, the counterweight of one section acting to help counterbalance the
30 other section when the two sections are moved away from their closed positions.

2. A bascule bridge comprising two sections adjacent to each other and located on the same side of the space to be spanned,
35 said sections opening in the same direction, each section supporting a portion of the floor of the bridge, a counterweight connected with each section, one counterweight being heavier than required to counterbalance the
40 section to which it is attached and a connection between the two sections so that they move in unison.

3. A bascule bridge comprising two sections adjacent to each other and on the
45 same side of the space to be spanned, said sections opening in the same direction, each section supporting a portion of the floor of the bridge, a counterweight connected with

each section, the counterweight of one section acting to help counterbalance the other
50 section and a connection between the two sections so that they move in unison to all their various positions and an operating mechanism associated with one section.

4. A bascule bridge comprising two movably mounted sections adjacent to each other and on the same side of the space to be spanned, said sections opening in the same direction, each carrying a part of the floor of the bridge, a movable connection between
60 said sections so that they move in unison, a separate counterweight connected with each section, the counterweight of one section being heavier than necessary to counterbalance said section, the surplus weight acting to
65 help counterbalance the other section.

5. A bascule bridge comprising two sections adjacent to each other and on the same side of the space to be spanned, said sections opening in the same direction, trunnions upon which said sections are mounted,
70 each section having rigid members which project rearwardly from the trunnions thereof, a separate counterweight connected with the rearwardly projecting members of each
75 section, the counterweight of the rear section being heavier than necessary to counterbalance said section and a pivoted connection between the two sections and means for opening and closing said sections.
80

6. A bascule bridge comprising a movable section adapted to be moved from a horizontal toward a vertical position to open it, two counterweights therefor placed in tandem, said counterweights moving about different axes of rotation, both of said counterweights operatively connected to said section
85 so as to co-act in counterbalancing it.

In testimony whereof, I affix my signature in the presence of two witnesses this 21st day
90 of August 1913.

JOSEPH B. STRAUSS.

Witnesses:

BESSIE S. RICE,
GENEVA HIRTH.

Copies of this patent may be obtained for five cents each, by addressing the "Commissioner of Patents, Washington, D. C."