No. 887,868. PATENTED MAY 19, 1908.

J. B. STRAUSS.

TROLLEY WIRE SUPPORTING DEVICE FOR BASCULE BRIDGES.

APPLICATION FILED JAN. 28, 1907.

2 SHEETS—SHEET 1.

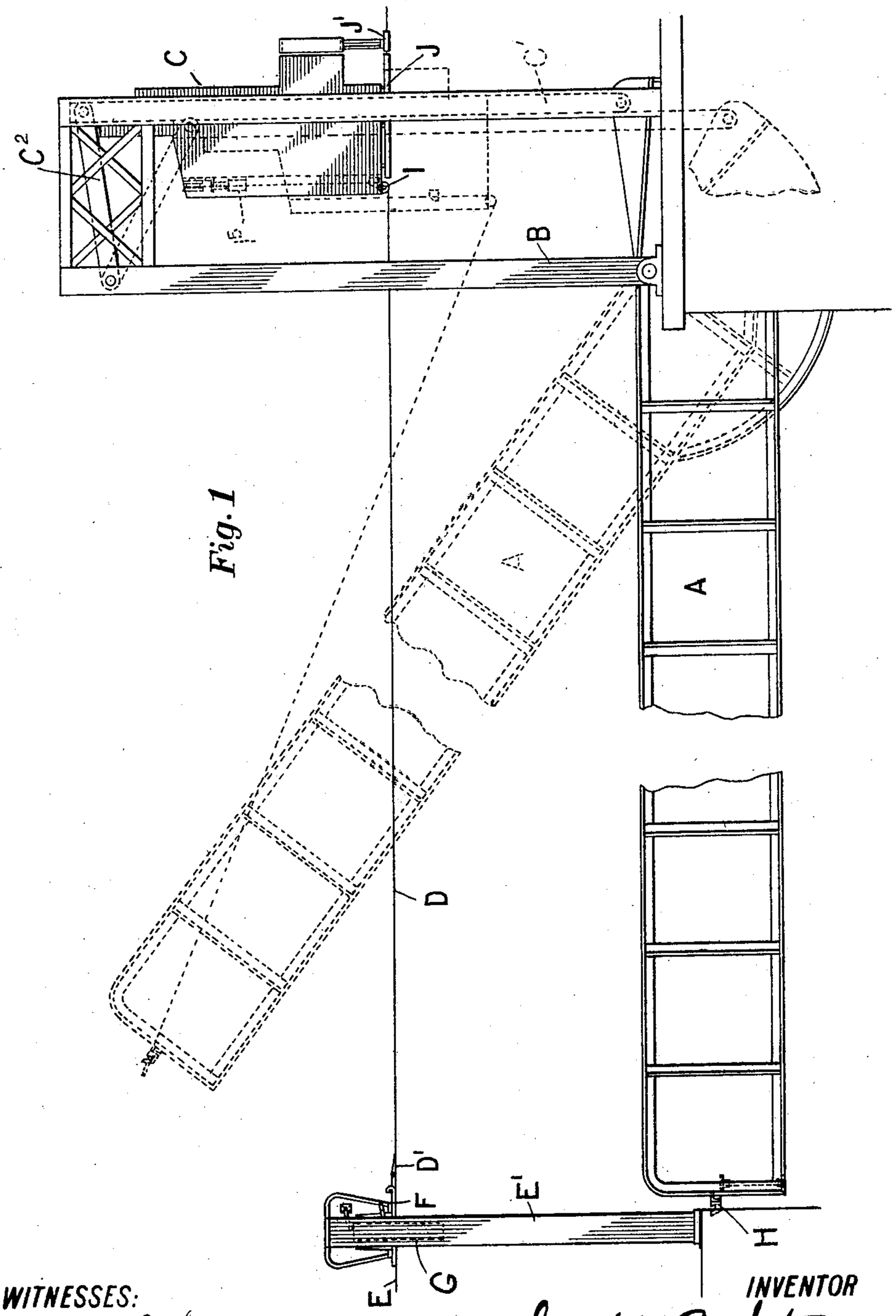

Fig. 1

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Fig. 2

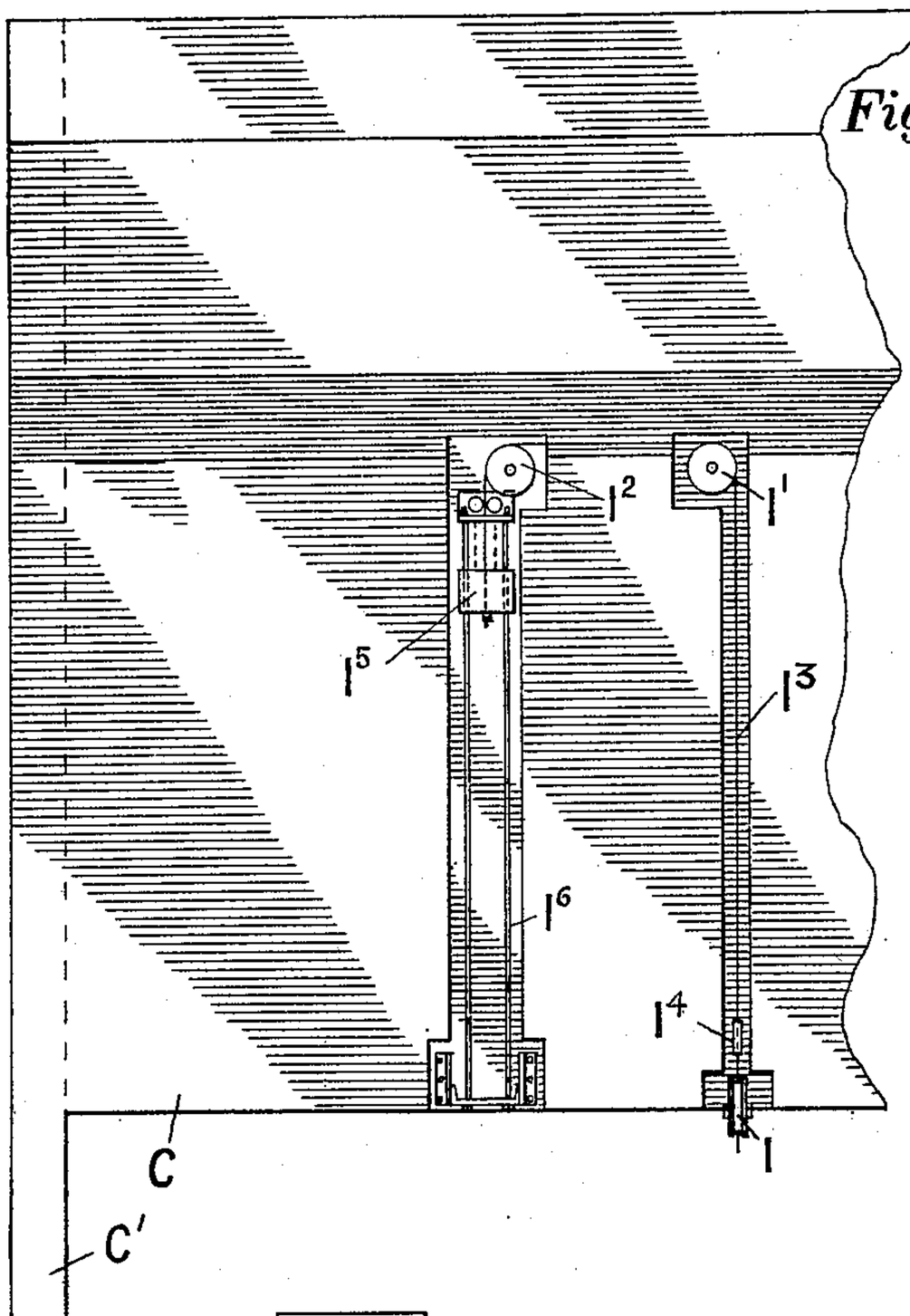


Fig. 3

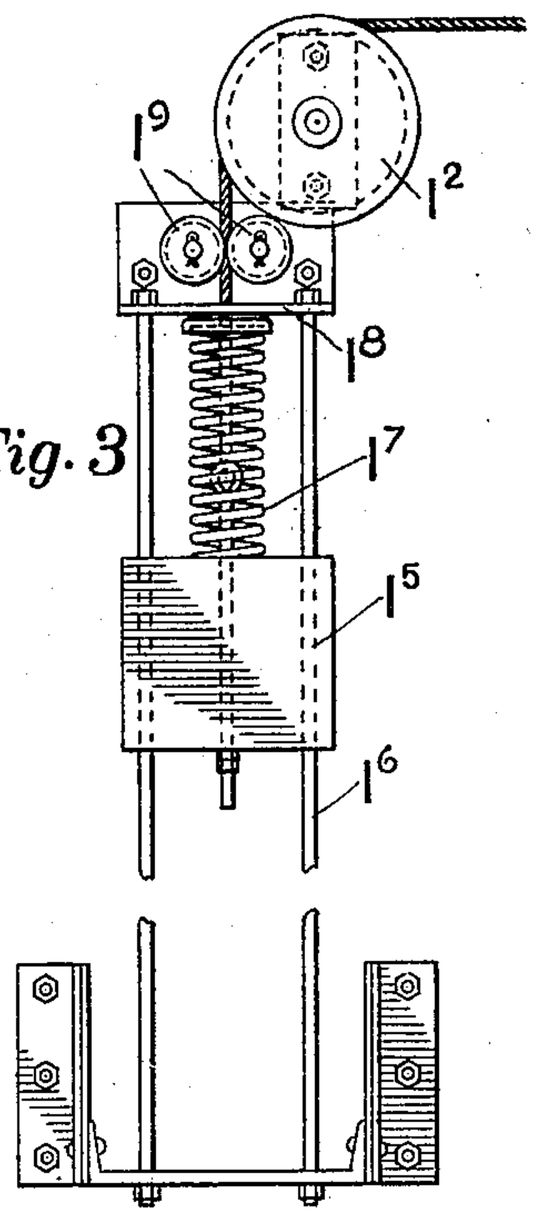
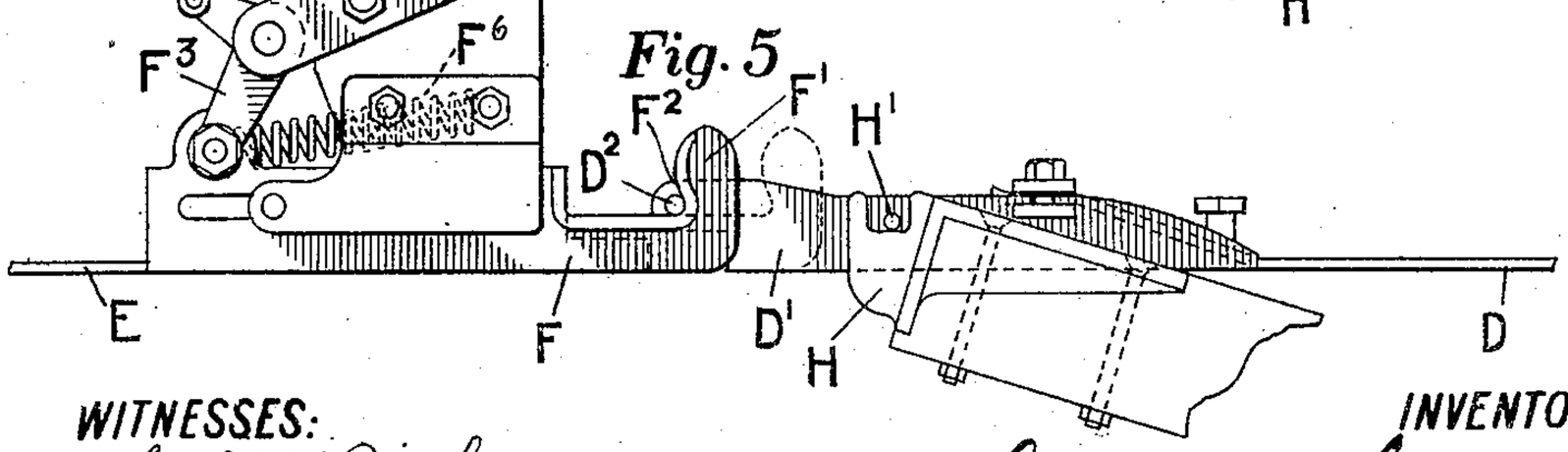


Fig. 4

Fig. 5



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JOSEPH B. STRAUSS, OF CHICAGO, ILLINOIS.

TROLLEY-WIRE-SUPPORTING DEVICE FOR BASCULE-BRIDGES.

No. 887,868. Specification of Letters Patent. Patented May 19, 1908.

Application filed January 28, 1907. Serial No. 354,391.

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 Trolley-Wire-Supporting Devices for Bascule-Bridges, of which the following is a specification.

This invention relates to trolley wire supporting devices for bascule bridges and has for its object to provide a new and improved device of this description.

The invention is illustrated in the accompanying drawings, wherein

Figure 1 is a view showing a bascule bridge provided with a device embodying the invention. Fig. 2 is a view showing the connection between the trolley wire and the counterweight of the bridge. Fig. 3 is an enlarged view showing the compensating device for the trolley wire. Fig. 4 is a plan view showing the apparatus for connecting and disconnecting the trolley wire during the operation of the bridge. Fig. 5 is a side elevation showing this mechanism.

Like letters refer to like parts throughout the several figures.

Referring now to the drawings, there is illustrated a bascule bridge provided with a main span A mounted upon trunnions so as to be opened or closed. Associated with the main span are the towers or supports B. A counterweight C is located above the clearance line of the bridge when the bridge is closed and is connected by the supporting pieces C^1 with the main span, said counterweight being also connected by the links C^2 with the supports B. The trolley wire D is provided at one end of the bridge with means for connecting and disconnecting it with the main trolley wire E when the bridge is closed and opened. As herein shown the end of the trolley wire D is provided with the engaging part D^1 which engages a second engaging part F located above the road-way and carried by the supports E^1. These engaging pieces may be of any desired construction. As herein shown the engaging piece D^1 is provided with a pin D^2. The engaging part F is provided with the upwardly projecting parts or hooks F^1 which engage the pin D^2. These upwardly projecting parts are preferably undercut as shown at F^2 so as to form hooks and prevent the upward movement of the engaging device D^1 under the pressure of the trolley wheel when the parts are in their normal position, as shown in full lines in Fig. 5. Some arrangement is necessary to provide relative movement of the two engaging devices to release the trolley wire section D when it is desired to open the bridge. As herein shown the engaging part F is mounted on the support so as to have longitudinal movement under predetermined conditions. The trolley wire E is connected to the part F. The part F is also connected with a bell crank lever F^3 which is connected by a rod F^4 with an arm F^5. A spring F^6 is connected with the parts and normally tends to move the part F in one direction. By moving the arm F^5 it will be seen that the part F may be moved back and forth so as to permit the disengagement of the part D^1. Any suitable means for operating the arm may be provided. I prefer, however, to provide a gate G associated with the supports E^1 and located across the road-way, the gate being normally at the top so as to be out of the way. When in this position it engages the arm F^5 and moves it so as to hold the part F in the position shown in full lines. When it is desired to open the bridge the gate is first lowered and when lowered releases the arm F^5 and the spring F^6 then moves the part F to the position shown in dotted lines in Fig. 5 so as to release the part D^1.

The main span of the bridge is provided with the hooks H and when the main span is lifted, these hooks engage a projection H^1 on the engaging part D^1, see Figs. 4 and 5, and lift said engaging part and the trolley wire upwardly, thus carrying them with the main span, as shown in dotted lines in Fig. 1. When the bridge is lowered the engaging part D^1 is disengaged from the hooks H when the pin D^2 strikes the engaging part F^1. After the main span is completely lowered the gate G is lifted and when it reaches its maximum position it strikes the arm F^5 and moves it upward, which in turn moves the engaging part F to the position shown in full lines in Fig. 5, thus bringing the parts F and D^1 in their interlocking position and preventing their disengagement by the pressure of the trolley wheel. The importance of this construction will thus be seen for it is necessary to have the section D connected with the section E when the bridge is closed and it is also necessary to prevent the two parts from being disengaged by the pressure of the trolley wheel and yet allow them to become disengaged when the bridge is opened.

Some means is provided for taking care of the slack in the trolley wire section D when the main span is lifted. The section D of the trolley wire passes around a pulley I, connected with the counterweight and then about the pulleys I^1 and I^2 and is connected with a suitable tension device which tends to prevent slack. I prefer to connect to the trolley wire a rope or other nonconducting piece I^3, the connection being made at the point I^4. The end of the part I^3 is connected to the weight I^5 working upon the guides I^6. A spring I^7 is preferably interposed between the weight I^5 and a suitable stop I^8. I also prefer to provide the two guide pulleys I^9. It will be seen that in this construction when the main span is lifted the slack in the section D of the trolley wire will be taken up as the part I^5 will move up or down as the case may be, to keep the proper tension in the wire. It will further be seen that this device is automatically acted. There is preferably attached to the counterweight a part J for the trolley wheel bridging the gap between the pulley I^2 and the end J^1 of the main trolley wire.

I claim:

1. A bascule bridge comprising a main span, a counterweight located above said main span and movably connected therewith, a trolley wire section movably connected with said counterweight, and means for automatically taking up the slack in said trolley wire section.

2. A bascule bridge comprising a main span, two trolley wire supports, one connected with the main span, and the other separate therefrom, and a removable trolley wire section spanning the space between said supports.

3. A bascule bridge comprising a main span, two trolley wire supports, one connected with the main span and the other separate therefrom, a removable trolley wire section spanning the space between said supports, and means for disconnecting said trolley wire section from the support separate from the main span when the bridge is open.

4. A bascule bridge comprising a main span, a part from which said span tends to separate as the bridge opens, a trolley wire associated with said part, and means for transferring said trolley wire from one to the other as the bridge opens and closes.

5. A bridge device comprising a movable part, a stationary part, the two parts tending to separate as the bridge opens, a trolley wire support on one part, the trolley wires of both parts connected to said support when the bridge is closed, and means for automatically disengaging the wires of one part as the bridge opens.

6. A bridge device comprising a movable part and a stationary part, a trolley wire associated with each part, a trolley wire support attached to one of said parts and adapted to support the trolley wires of both parts when the bridge is closed, the trolley wire of one part being permanently connected to said support, the trolley wire of the other part detachably connected to said support, a disengaging device on one part whereby the detachable wire is lifted from said support as the bridge opens and held in an elevated position while the bridge is open.

7. A bascule bridge comprising a main span, a trolley wire section associated therewith, a counterweight for said main span located above the roadway, said counterweight adapted to move with the main span and means for adjusting the trolley wire relatively to compensate for the movement of said counterweight.

8. A bascule bridge comprising a main span, a trolley wire section associated therewith, a counterweight located above the roadway and connected with said main span, and a tower associated with said counterweight, and means on said counterweight and tower for adjusting the trolley wire as the main span opens and closes.

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Witnesses:
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