

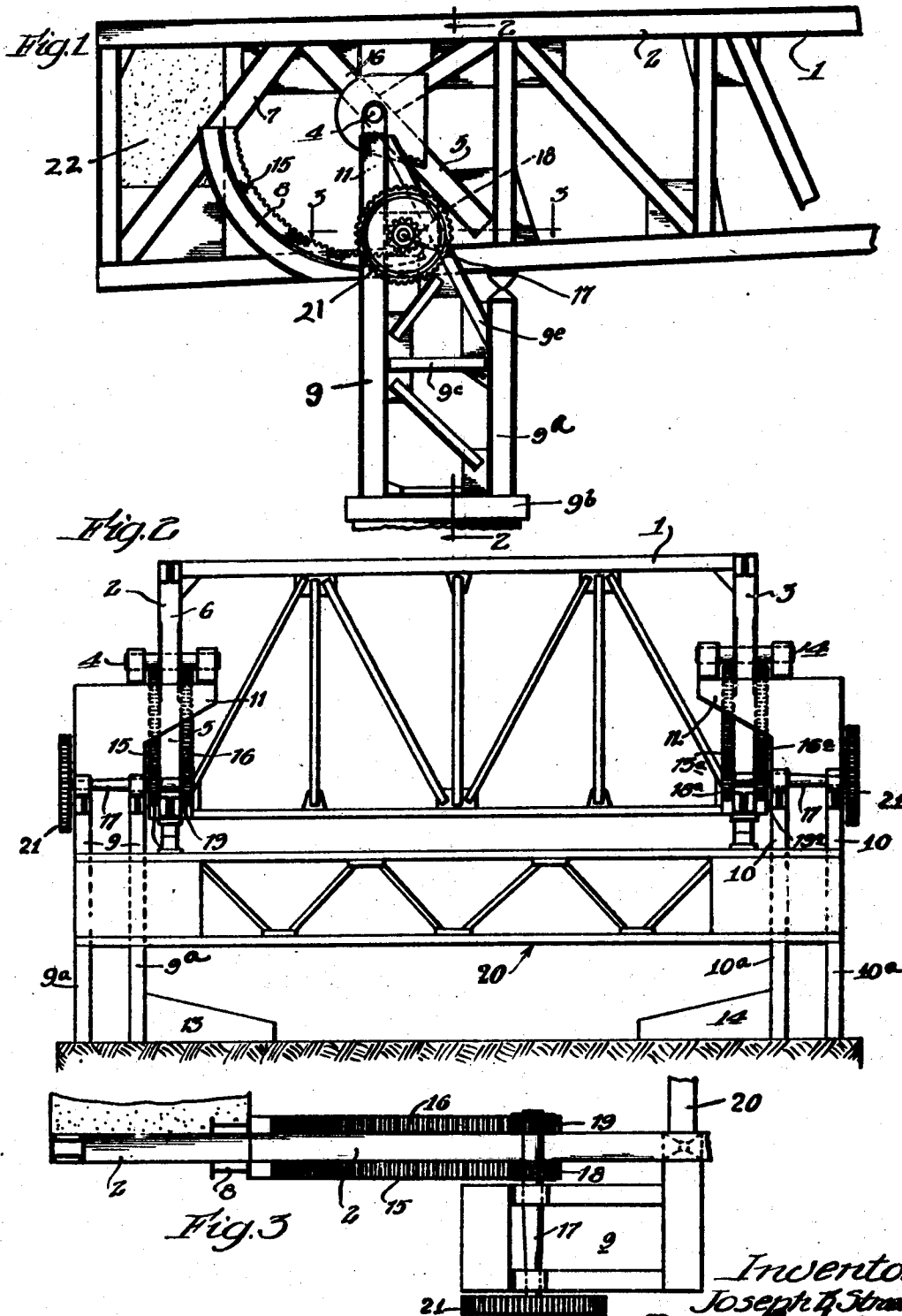
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BRIDGE

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BRIDGE

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This invention relates to bascule bridges and has for its object to provide a new and improved device of this description. The invention has as another object to provide a new and improved means for supporting the main span of a bridge. The invention has as a further object to provide a new and improved construction of the main span for facilitating the movement thereof to open and close the bridge. The invention has as a further object to materially cheapen the construction of a bascule bridge. The invention has other objects which are more particularly pointed out in the following description.

Referring now to the drawings—

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

Figure 2 is a sectional view taken on line 2—2 of Figure 1.

Figure 3 is an enlarged sectional view taken on line 3—3 of Figure 1, with parts omitted.

Like numerals refer to like parts throughout the several figures.

Referring now to the drawings, I have shown a bascule bridge having the main span 1 provided with two separated trusses 2 and 3. These trusses are mounted upon the trunnions 4. The truss members adjacent to the trunnions comprise four elements 5, 6, 7, 8. Two of these elements, 5 and 6, meet or center at the trunnion 4. The main span is supported by the supports 9 and 9 on opposite sides thereof and out of the vertical plane of the trusses. These supports are provided with the laterally projecting supporting parts 11 and 12 each of which projects through the truss members of its associated truss into the plane of the truss, the trunnions 4 being supported thereon in any desired manner. As herein shown, the trunnions 4 are mounted upon the supporting pieces 11 and 12 and are provided with bearings to permit the rotation of the truss to open and close the bridge. The truss elements or members at the trunnion are arranged so as not to interfere with the opening or closing of the bridge, that is, so that they do not strike the supporting pieces 11 and 12 as the bridge is lifted and opened. In

the construction shown these supporting pieces project towards each other but are separated from each other. The supports 9 are preferably provided at their base with the laterally projecting parts 13 and 14 which project into the plane of the trusses each underlying its associated truss. It will thus be seen that the supporting pieces 11 and 12 which support the trusses and the main span have means associated with them to permit them to take the longitudinal and transverse forces coming upon them. Some suitable operating mechanism is provided. In the construction shown the member 8 is provided on opposite sides with the two racks 15 and 16. A shaft 17 extends through the trusses and is provided with the two pinions 18 and 19 which engage the racks 15 and 16. Both trusses may be provided with similar racks and pinions, as shown in the drawings, the other set of racks being designated 15a and 16a and the pinions 18a and 19a. The members 5 and 7 of the truss at the point where the shaft passes therethrough is arranged so as to clear said shaft in all the various positions of the trusses by reason of their spanning the arcuate racks, that is, so that none of them will strike the shaft as the main span is opened and closed as shown in Fig. 1.

The supports are provided with the front posts 9a and 10a which act to take the live load. These posts are connected with a suitable connecting member 20 which extends across under the main span and which is engaged by the main span when it is closed so as to carry the live load and transmit it to the front posts 9a and 10a.

The double or twin rack and pinion construction greatly facilitates the operation of the device. The shafts of the twin pinions project through the truss members and are provided with gears 21 to which the driving motor is operatively connected.

The main span is provided with suitable counterweight 22.

In the particular construction shown in Fig. 1, the rectangular construction consists of the posts 9 and 9a with the bottom connection 9b between them and the cross con-

nection 9c. The triangular construction is above the rectangular construction and includes the inclined member 9e connecting the top of the post 9a with the top of the post 9.

5 I claim:

1. A bascule bridge comprising a main span having separated trusses, trunnions for said trusses, separated supports at the sides of said span for said trunnions, each support
10 having a laterally projecting cantilever part which projects through the members of its associated truss to a position in the vertical plane of the truss, the trunnion of the truss supported upon said laterally projecting part.

15 2. A bascule bridge comprising a main span having separated trusses, trunnions for said trusses, a support for the trunnion of each truss located at one side of the vertical plane of said truss, a cantilever portion of said support projecting into the vertical
20 plane of said truss, the truss having an open space to admit said projection, said projection supporting the trunnion of the truss.

25 3. A bascule bridge comprising a main span having separated trusses, trunnions for said trusses, a support for each truss located at one side of the vertical plane of the truss, said support having laterally cantilever projecting parts at the top and at the bottom
30 thereof, the laterally projecting part at the top projecting through the members of the truss, the truss having an open space to clear said projection, the trunnion for the truss being carried by said projection, the projection at the bottom projecting into the vertical
35 plane of the truss and underlying the same.

4. A bascule bridge comprising a main span having separated trusses, a support for each truss outside of the vertical plane of
40 said truss, a cantilever projection on said support projecting through the members of said truss into the plane of said truss, a fixed trunnion mounted on said support and a bearing connected with said truss in which
45 said trunnion works so as to permit the truss to rotate on said trunnion.

5. A bascule bridge comprising a main span having separated trusses, trunnions for
50 said trusses, two opposed disconnected supporting parts, one projecting through the members of each truss, the trunnions of the trusses supported thereon and means associated with said supporting parts to permit
55 them to take longitudinal and transverse forces acting upon them.

6. A bascule bridge comprising a truss, a trunnion therefor, a support for said trunnion, the truss members of the truss adjacent
60 the trunnion comprising four elements two of said elements meeting at the trunnion, two racks connected to one of said elements on opposite sides thereof, two pinions meshing with said racks, a shaft for said pinions passing
65 through the truss members, said truss

members clearing said shaft in all the various positions of the truss.

Signed at Chicago, county of Cook and State of Illinois, this 20th day of October, 1923.

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