any strain in this direction, with the load the bridge is intended to sustain.

The top and bottom chords are of the same form that has been already described for the channel span, and are shown in the section, Fig. 11.

The middle section of the top chord has two horizontal plates, 25" × 5" and 25" × 5", four angle irons, 4" × 4" × 1 4", and two vertical plates, 15" × 9"; making an area of 62.8 square inches.

The middle section of the bottom chord has two horizontal plates, 25" × 5" each, four angle irons, 4" × 4" × 1 4", and two vertical plates, 15" × 9", making a sectional area of 59.5 square inches. Not including the amount of metal taken out by the rivet holes, it is 47.5 square inches.

At the ends of the girders the area of the top and bottom chords is the same. There is one horizontal plate, 25" × 5", with the vertical plates and angle irons the same as in the middle.

Except at the ends, the plates in these chords are in lengths of 17 feet.

The floor beams are attached to the vertical posts by rivets through the angle irons of the end of the beam and the T iron of the post, and are supported underneath by short pieces of angle iron which are riveted to the post just above the vertical plate of the lower chord.

These beams are 15" deep and are composed of a vertical web 1 4" in thickness, with a top flange of angle irons, 4" × 4" × 5", one on each side, and a bottom flange of angle irons 3 3/4" × 3 1/2" × 1 3/4". At the ends are vertical angle irons of the same dimensions as the lower flange.

Between the floor beams are horizontal diagonal tie rods which cross two spaces, passing at their intersection through the middle of each alternate floor beam. These rods vary in size from 1 3/4" diameter at the ends, to 1" at the middle of the span.

From the floor beams to the posts are stay braces of T iron, (5" × 5") × (2 1/4" × 5/8"), reaching to the top of the first of the three small panels into which the post is divided by the bracing between the T bars. These braces are in line with the small diagonal brace of the post in the panel above them.

The ends of the girders rest upon castings as described for the