importance as the pins, is the proper form to be given to the ends of the "links" or "eye-bars," the name usually given to the braces and lower chord bars. In order that the pin will not tear through the eyes before the body of the bar is at the point of rupture, experiment has shown that the link-heads must be full, and of gradual curvature, the proportions of which being dependent somewhat on the mode of manufacture. Still further experiments are required on eye-bars of various sizes, to determine with accuracy just what proportion should be given to the heads; but so far as experience has gone, it points to a proportion in the case of flat bars of about 50 per cent of metal through the pin in excess of that through the body of the bar, and in front of the pin about the same as is contained in the body of the bar. Back of the pin, the curve uniting the head with the body of the bar should be a gradual one, so that the strain in the bar will not be too abruptly transferred around the pin. The annexed cut represents the end of an eye-bar, with a pin passing through it, the relative intensity of the surface pressure being indicated in shaded lines. It will be perceived how important it is to have tight-fitting pins, since the first pressure is simply a line of contact, the semi-circumference of the pin only coming into bearing when the pressure has upset the metal in front of the pin by an amount equal to the extent of play in the eye. Some engineers consider that the bearing surface should be determined by projecting the semi-circumference on the diameter, allowing nothing for frictional resistance