to lateral strain at the ends of links. To obviate this difficulty, care is required in the manufacture. The usual mode of forming the link, is, to take a bar of sufficient length, bend it in the middle to form one end of the link, and weld the ends of the bar together to form the other end.

Now, if the iron be well upset, so as to have an increase of section at the bends; and reasonable pains taken in fitting them to the connecting-blocks, the ends may be made about as safe and reliable as the straight portions of the link.

The more soft and flexible the iron can be left at the ends, the better can it adapt itself to a proper bearing upon the block. It may therefore be advisable to heat the ends of links, after the hammering and shaping are done, and let them cool gradually.

Furthermore; if the ends of links were reamed to a uniform size, and circular form; and the connecting-blocks rounded to an accurate fit, the work would seem more perfect and satisfactory. This, however, is not usually done, and the consequence is, as to my experience, that I have ever felt as if there were some more liability to failure at the ends, than in other parts of the link.

The great allowance, however, made in practice, between actual strain and absolute strength of material, renders failure almost impossible; though defective material and faulty workmanship, as in every other department of human affairs, may be followed by failure in some cases.