of only 19,000 pounds; while the strain which was at any time liable to come on them was 22,000 pounds per inch, or 3,000 pounds more than the elastic limit. The fracture of the tested rods, which, it is stated, broke with a single blow of the hammer very much in the manner of cast-iron, showed a very inferior quality of metal. The rods broke in the bridge exactly where we should look for the failure; viz., in the screw at the end. No ordinary inspection would have detected this weakness. No inspection did detect it, but a proper specification faithfully carried out would have prevented the disaster.

Look now at an extract from the specification for bridges upon the Cincinnati Southern Railway:—

“All parts of the bridges and trestleworks