With a very large proportion of our bridges, the failure of a rail, the breaking of an axle, or any thing which shall throw the train from the track, is almost sure to be followed by the breaking down of the bridge. The cross-ties are in many cases very short, and the floor is proportioned for a train on and not off the rails. When an engine on such a floor leaves the track, it plunges off the ends of the cross-ties into the open space between the stringers and the chords, and generally wrecks the bridge. To prevent this, the cross-ties should be long and well supported, and placed so close that a derailed engine cannot cut through them. The track should also be provided with guard-timbers well fastened, and the width between the trusses should be so great that the wheels of a derailed train will be stopped by