motion will be scarcely felt. The starting and stopping will be gradual and will be entirely under the control of the engineer. Allowing for the discharge of a train one minute, and for its filling another minute, including the time consumed in stopping and starting the train, there remains three minutes to run over one mile of Bridge. A speed of twenty miles is sometimes maintained on some of our heaviest coal inclines in our coal regions, rising one in ten, and with loads of several hundred tons of coal, in one single train, propelled by wire ropes of 2½ inches diameter.

The number of cars may be increased to ten, in each train, each car 50 feet long from coupling to coupling, and 11 feet 6 inches wide outside, with a capacity to seat one hundred persons comfortably. Each car is to be divided crossways into eight coupés or sections. Each section will have two seats, fronting each other, and each seat will admit six to eight persons. I allow in this estimate twelve or thirteen persons for each section, or about one hundred persons for one car. Each section has two opposite doors, one for coming in, the other for going out. These doors are to be suspended sliding doors, and connected with each other by light bars, so that the eight doors on each side of a car can be opened or closed at one operation by the conductors. Two conductors will go with each train and attend to the opening and closing of these doors.

The different cars being all attached to the same wire rope, their relative position will be fixed, and