Bridge. It is hardly necessary to mention here the impossibility of moving the entire cable, finished, in its place, which opinion seems generally to prevail among non-professional people. Not to speak of the impracticability of its manufacture, the consideration—that it is 3577 feet long and weighs 870 tons, shows, that insurmountable obstacles would resist the locomotion of such a mass and that no tower could withstand the side thrust caused by the friction in taking the cable over.

Before going into details, I will premise by a description, in general outlines, of how the cables are made, using therein the dimensions and names of the East River Bridge. This will facilitate the understanding of the cable machinery and will also be applicable to any other suspension bridge by changing dimensions and names according to its size and location.

The floor of the East River Bridge, which is eighty-five feet wide, and destined to carry all kinds of traffic includ-