B.

By reference to the first part of Appendix A, it will be seen that the strains remain the same, whether the catenary is complete or divided in the centre, with the apex as one of the fixed points.

Therefore the semi or land spans may in every respect be considered the same as the entire catenary, so far as applied to the direction of forces and their quantity.

C.

THE STRAIN ON THE TOPS OF THE TOWERS.

The angle of direction of the cables of the land spans being the same as that of the centre spans, the resultant of the forces becomes vertical pressure only.

Where the backstays of a single span, or the cables of a Bridge of more than one span, leave the towers at different angles, the pressure becomes more or less horizontal or sideways, tending to press the towers inwards or outwards, but when the angles are the same the horizontal forces neutralize each other, and the pressure becomes only vertical.

D.

The vertical pressure of the cables is = T × Nat. Cos. of the angle of direction of the cables × 2, because the land spans and centre spans will counterbalance each other.

The pressures calculated in the text are the breaking forces of the Bridge.

E.

Any two catenaries are similar when their points of suspension are on the horizontal plane, whether the elements and other dimensions constituting them are proportionately increased or decreased indefinitely.