ed by cutting down the rocks vertically so as to gain 5 feet from the slope which is believed to be fully as great as one horizontal to 4 vertical; and this excavation would furnish materials for the construction of the partition wall which for economy of space, should be built nearly vertical. If it should still be considered an object further to enlarge the cross section of the water in the canal without moving the exterior wall and tow-path, this object could be attained to some extent by walling the side of the canal next the tow-path, so as to allow the slope to be 1 to 4. Then both walls having a slope 1 to 4, the top breadth of water being 35 feet and depth 6 feet, the width at bottom would be 32 feet, and the area of the cross section 201 square feet, being still about 50 per cent greater than the cross sections of the N. York, Pennsylvania and Ohio, which are 40 feet wide and 4 feet deep with a cross section of 136 square feet. When I consider the great amount of business done upon some of these canals having these smaller dimensions, I cannot view a partial contraction of this canal at a few difficult passes, so as to reduce its cross section even to that of the Erie canal, much less to an area 50 per cent. greater than the Erie canal, as materially, if at all, impairing its utility.

Answer to query 5. If the mode of construction pointed out in the foregoing answer should be adopted, and if it should be found necessary to extend it at the points of collision to the distance designated by Knight and Roberts in their surveys for conjoint construction, viz: 2 miles in the whole, between the point of rocks and Harper's Ferry; and if the partition wall should average 10 feet in height, 2 1-2 feet thick at top, and 5 feet at bottom having a batter next the canal, of 1 to 4, there would be required about 16,000 perches of masonry in the 2 miles for the partition wall costing probably $20,000. The filling back of the wall for the rail-way would probably cost $10 000 in addition, making together $30,000; but if the whole width of the canal should be first excavated, it might enhance the entire cost in the 2 miles to $35,000 It would greatly add to the expense, in the present state of the work, to throw the canal further into the river, and I am not prepared to submit a conjecture as to the amount which this mode of gaining width would now involve.

Answer to query 6. "The points specifically along the