When the wire was taken from the shieve in Covington, that part attached to the shoe in Cincinnati was drawn by the workmen in Covington, to its proper tension at the cradle; then the other part, which was attached to the drum, was drawn in like manner by the workmen in Cincinnati, and again passed around the shoe, and over the traveling shelve, in readiness to be run over again. These movements were governed and directed by signals, made with little flags, on the towers, cradle, and anchorages.

When a strand of 740 wires was run over, it was ready to be wrapped. This consisted merely of making a few turns of annealed wire around it, at intervals of one foot. Stagings 12 feet long and 5 feet wide, were suspended from the strand to be wrapped, along which they moved on iron grooved pulleys or shieves, and on these stages the workmen wrapped and painted each strand in succession. After wrapping, the shoes were let forward to their proper position and secured to the anchor bars.

When the 7 strands which composed the cables were completed, these small wrappings were taken off, except those on the middle strand, and the whole mass of 5,180 wires was compressed into a true circle by means of powerful clamps, 12 inches in diameter, and covered by a continuous spiral wrapping of galvanized iron wire. This final wrapping was put on by an ingeniously contrived machine, consisting of a cast iron cylinder, made to fit the exact size of the cable, and a reel, which revolved upon it, and held the wrapping wire. The cylinder was forced along the cable by the screw-like action of the wrapping wire as it was wound off the reel. The machine was operated by men standing on stagings, similar to those used in wrapping the single strands. With every operation, the strands and cable were oiled and painted, until they would hold no more—and so were the cables made.

THE SUSPENDERS, &c.

Next in importance to the cables in the wire department, come the suspenders with their connections. They are 606 in number, made of laid wire ropes, 1¼ inch in diameter; except a few of the shortest in the centre of the bridge, which are of round iron. A few of the longest near the towers, where the strain is lightest, are only 1½ inch in diameter. The suspenders were attached to the cables in this manner: Flat wrought iron bands, 4 inches wide, by ½ inch thick,