After the lapse of a year, Christiansen reached the completion of his task, and on the 6th of July, 1762, the new pumps raised the water for the first time. Nor were forgotten, amid the general rejoicings of that memorable day, the authors of the achievement, for, as the record quaintly tells us, Christiansen received 30 shillings, and Christopher Demuth his assistant, 15 shillings “for ye water running.”

The machinery of these second water works, which was one of the sights of the town and which never failed to interest visitors, consisted of (quoting the description of Charles D. Bishop) 3 single-acting force pumps (of iron, cast at Durham Furnace at a cost there of £8 13s. 4d.) of 4-inch calibre and 18-inch stroke, worked by a triple crank (forged by the resident blacksmith, Stephen Blinn, and ever the just subject of pride as to ingenuity of workmanship) geared to the shaft of an undershot water wheel, 18 feet in diameter and two feet clear in the buckets.

The head of water was 2 feet. On the water wheel shaft was a wadlower of 33 rounds, which geared into a spur wheel of 52 cogs, attached to the crank; the three piston rods were attached each to a frame or crosshead working in grooves to give them a motion parallel to the pumps. The crossheads were of wood, as also the parts containing the grooves for guides. The works were calculated to raise the water 70 feet, subsequently, however, increased to 112 feet. The rising mains were made of gum wood, as they were subject to greater pressure, the other pipes of pitch pine.

The cost of the entire works, including the tile-covered stone building, was £514 16s. 5d.

The distributing reservoir was a stand-pipe, a wooden tower, shingle-roofed, which was built in “the little square” already mentioned, surmounted, moreover, as sundry expense accounts inform us, with an embellishment in the way of a weather-vane of piscatorial device.* From this point the water was distributed into cisterns or tanks which were built in the vicinity of the principal dwellings.

This spring continued to supply practically all the water required for the borough until 1912. A 300-foot well was then drilled between the spring and the creek, but the water was so badly contaminated by sewage that it could not be used. Water from a 390-foot well at the Bethlehem Silk Mill, half a mile farther north, was used to supplement the spring supply. The spring finally, however, became contaminated and had to be abandoned. At times it yielded 1,200,000 gallons a day, and the 390-foot well furnished 460,000 gallons a day.

In 1912 Bethlehem began to use the water from two wells at Illick’s Mill, on Monocacy Creek about one and a half miles north of Bethlehem. These wells, which are 700 and 750 feet deep, overflow, but they must be pumped in order to obtain a sufficient supply. Together they yielded 2,000,000 gallons a day. A third well, 1,013 feet deep, was completed on the same property just east of the creek in March, 1915. Tests show it to have a capacity of 1,351 gallons a minute, or approximately 2,000,000 gallons a day.

* The identical vane, which, upon the old water tower, for forty years compiled with the ever varying motions of the wind, and furnished to the population of the village the indications of weather changes, whether fair or foul, with unerring fidelity, was in 1856 swung over Temperance Hall on Broad Street, where, it must be admitted, it never received on the part of the neighboring dwellers, the esteem and respect which its antiquity warranted. Albeit its re-dedication was again to the honor of cold water, it is said that this symbolic device never again seemed to be in its element, and, in the dreariness of stormy mornings, would creak damingly, while veering in obedience to the fretful blasts.