

5540. Then, as to the ventilation with the sewer itself—that is, the sewers beyond the stench-trap to the main sewer?—Yes; there are three of these stench-traps connecting with the main sewer in Cumberland Street.

5541. *The Chairman.*] Did you go on the roof and examine the top of that ventilator from the stench-pipe?—Yes.

5542. Did you examine the outlet?—Yes; it has what is called a cap or a bonnet on it.

5543. There are four of them?—Yes, there are four, and they are quite open.

5544. Was there any smell?—No.

5545. Was it not acting?—Yes; I lit a match and put it alongside and the flame tended away from it. There was not much draught as it was a particularly calm day, but there was a slight current of air coming out of it.

5546. But it had no smell?—No; I could not smell anything, and I am pretty sure of a smell.

5547. How do you account for the absence of smell?—It shows that the drains are well ventilated, I think, and probably by the time we are finished an explanation will be given of it.

5548. That it is not connected with the drains, do you mean?—It is connected.

5549. *Mr. Chapman.*] When we left off your examination we had got through the inside drainage-arrangements: do you know where the gullet-trap connected with No. 7 drains to?—Into the King Street sewer.

5550. By means of what?—A 9in. pipe, I think.

5551. Do you know where the sewage flows to?—Towards Hanover Street sewer, I think, but I will examine the sewers plan and make sure of that.

5552. Do you know how the outfall from the Hospital is ventilated?—I am not sure about that.

5553. But it is ventilated on the Hospital side of the gullet-trap, is it not?—Yes.

5554. And the other side of the gullet-trap leads into—what?—Cumberland Street. I think it is a 3in. by 2in. pipe, and I think the outfall goes away to the north-east corner.

5555. Where is the outfall of the 9in. pipe?—I think it is towards Hanover Street, but I am not sure of that either. The sewage flows into the harbour. The contents run into the harbour at the foot of Hanover Street, whence it flows from the reclaimed land into the harbour. This part of the sewer is open, and the surroundings are certainly unsatisfactory. In connection with the sewers, there are gratings opening into the channels of the streets, but I do not know whether they are trapped or not. Certainly these gratings are not so good as ventilators. There are two ventilators within the Hospital grounds, from a 9in. pipe that leads into the main drain. I do not know that these ventilators are the best plan that could be adopted, but I think they are sufficient for the purpose. I saw the linoleum lifted from the floors, and I think that the boards are in a sound state. There were no signs as far as I noticed of dry-rot in the timbers. The best way to improve the floors would be to lift them and lay down new flooring. Possibly cement might be used for filling up the joints, but probably that would cost as much as would put down a new floor. A cheaper method would certainly be putting down an asphalt cover all over the floor, but I do not know how the medical gentlemen would like that, though the asphalt could be finished off very smoothly. The walls in Nos. 1 and 2 wards have been cemented, finished off very nice and smoothly, and painted; and I think that all the walls should be treated in a similar way. I also think that all the walls should be made non-absorbent. The ceilings should be similarly treated. They have been plastered in the meantime.

5556. You have taken out a number of measurements, have you not?—Yes.

5557. Well, we will take the lower wards first?—In the lower wards I found that as nearly as possible a cubic space of 66ft. is given, not taking in the timber of the windows.

5558. And in the upper wards?—I measured in the same manner there, and found that 111 cubic feet of space is given.

5559. Do you know what the authorities say is the proper proportion?—1 in 50 to 60.

5560. Now, about the ventilation?—The ventilation of the lower wards is obtained by openings in the windows. There are at least seven of them in the lower part of the window and there are three openings in the upper part. If I remember rightly, there is in addition a circular ventilator opening into a flue which comes from the fireplace. The whole of the heating of the Hospital is done by means of steam-pipes. I made calculations as to the amount of air—supposing that the lower parts of the windows were taken as inlets—and the velocity at which the air would enter the wards, and found that it would enter at the rate of $1\frac{1}{2}$ ft. per second per patient, which is laid down by the authorities as a safe rate. Anything under 5ft. might be called free from draught. [Witness here explained the effect of his calculations as to inlets and outlets for air-supply.]

5561. In answer to the Chairman, witness said that prior to 1876 the kitchen was in one of the annexes at the rear of the main building. The boiler in the basement was at present in very fair order. The fumes from the coal that was used might have opened a few joints lately and affected the iron roofing to some extent. Last year a little over £30 was expended in renewing the greater part of the roofing of the southern tower. The drains from the kitchen, as far as witness recollected, were led into the original drain, which was carried from the building to the corner of Hanover Street. This drain was not used for sewage purposes, nor did it take the down-water from the roof; the roof-water went into the soil-pipes. In this kitchen-drain there is a grease-trap about 30ft. away from the main building, and there is a grating over that. This grating is on the Hospital side of the trap. Witness also thought that there was a trap in the kitchen, or just outside of the kitchen. There were sink-traps, but these were not ventilated in the sense of the ventilators that had been already spoken of. There was, however, a ventilator leading up from the outside pipe, between the grease-trap and the kitchen. So far as witness knew, there was no ventilator in the kitchen. The pipes from the washhand basins in the operating-room discharge