

5503. *The Chairman.*] What is it connected with?—In the case of No. 7 it is closed up. I think some of the other wards are opened, and the ventilators carried up from them.

5504. So that B and D, the two ventilators supplied by the inventor, are closed?—Yes.

5505. *Mr. Chapman.*] In what way?—Blocked up with the cement.

5506. Would that be in accordance with the theory of the inventor of the working for such closets?—No. The pipes should have been continued from these; but I may say that probably whoever put that closet in, knowing of the window-opening in the closet, and also of the ventilator in the ceiling—about 6in. in diameter—imagined that was sufficient.

5507. He would look on the window and the ventilator as a substitute?—It could hardly be called a substitute, because the ventilator would only take foul air from the room, but this is intended to take foul air from the ventilator. The person putting them in, however, might suppose they would answer all purposes.

5508. *The Chairman.*] That is an error, and opposed to the inventor's intentions?—That is so.

5509. The closet cannot be properly ventilated?—No. The closet-room is ventilated by a window and a ceiling-ventilator, which comes out into the floor of the tower.

5510. But in the tower ward?—I am not sure, but I think it is carried outside.

5511. *Mr. Chapman.*] Is it that little corner turret you mean?—Yes.

5512. *Mr. Chapman.*] We have used the towers in another sense.

5513. *The Chairman.*] Can you describe the condition of the flushing of the tanks? Does a certain amount of water descend in a given time, in accordance with the instructions of the inventor?—The flushing-tanks are rather over than under; it is an excellent flush, and will wash everything away.

5514. Have you ever happened to be examining any of the closets during a heavy fall of rain?—No, I have not.

5515. Have you heard anything to lead you to believe that a heavy downpour of water from the roof would siphon-out that closet if the ventilator is closed?—Well, practically it is not possible.

5516. Why?—Because the quantity of the rainfall, unless something abnormal, would not fill the pipe, and it is hardly possible to fill it in the way it is connected with the gutter. In hydraulics, to get a pipe full, it is necessary to exclude the air at the top. [Witness explained the plan.]

5517. *Mr. Chapman.*] Have you inspected the Seacliff arrangements of a similar kind?—No, I have not. It would require a rainfall of at least 12in. in the hour to fill one of these pipes.

5518. If they were flowing free?—Yes; at the recognised quantity they would take 400 gallons a minute.

5519. But how much would fill the pipe from top to bottom if it was temporarily plugged at the bottom?—About 17 gallons, I think; but it could not be practically temporarily plugged. In theory it might be, but it is a thing that might not occur in a hundred years in practice.

5520. *The Chairman.*] What traps are these? Leaving the closet, what traps do you meet? There is a closet-trap, is there not?—Yes, going to the drains.

5521. Is there no trap between that and the next closet?—No, it is a straight pipe.

5522. Then No. 2 closet?—No. 2 closet is closed, and connects with the straight pipe.

5523. What is the angle at which the pipe turns at the bottom?—They are of the round turn, not the straight turn.

5524. Is it a quarter-bend?—I think it is.

5525. And that leads with a length of what?—I do not know how far it is. It may be 6ft. or 10ft.; probably, 6ft. or 8ft.

5526. With a fall of?—Well, that fall also varies. I am not sure about it.

5527. *Mr. Chapman.*] What is the size of the pipe?—4in. It goes into the 6in. pipe.

5528. Where?—On the outside of the building.

5529. But we have not got to that?—Well, the next trap is at the bottom of the pipe in the cellar.

5530. Do you consider that satisfactory?—No; I would have another shaft from the main sewer with a slight fall and a right-angle bend where it enters the 6in. drain-pipe that connects the ventilator, which goes right up above the turret-flue. It comes from the grating side of the grease-trap, and goes up to the turret-roof.

5531. No ventilation is provided for the drain side of the trap?—No, not there.

5532. Then, you say this is not satisfactory?—No, that is not satisfactory.

5533. Could you give us information about other connections from the ward—lavatories and baths?—The waste-pipe from the lavatories and sink and baths are connected with the soil-pipe. [Plans examined and explained.] I have tested the pipes, and found they did not siphon. Dr. Truby King, Dr. Maunsell, and Dr. Jeffcoat were present, and Dr. Truby King superintended the work.

5534. But you think that under certain circumstances they might siphon?—Yes, it is possible.

5535. You say they have no ventilators from two sides of the trap, which they should have?—That is so.

5536. Is that a defect?—It is a defect.

5537. Important?—Well, it is and it is not. It is more a theoretical defect than a practical one, because the water never fills the pipe practically.

5538. But even if they do not siphon out, is it not defective plumbing to have, practically, a soil-pipe without ventilation?—It is a defect, no doubt, but it is just a question of cost.

5539. The only ventilation of the connections with the lavatories, sink, and bath is through the aperture through which the water runs away?—Yes, and through the grating with which the water-pipe is connected.