1205. Would not the weakness of the pillars have more to do with it?—If the pillars are not sufficient the roof would fall in in any case. The reason of leaving pillars is to prolong the existence of the mine. Sooner or later all mines collapse, and the pillars are merely left to prolong their existence, and the proportion that the pillars bear to the worked out coal is carefully considered according to the circumstances of the case.

1206. With reference to the method of working this mine; with a seam of from 10ft. 6in. to 3ft., and into a dip of 1 in 4, what would be a safe thing to leave in pillars for submarine workings, at the very least?—About half and half. It would depend again on the roof. Judicious management in shaping them so as to take advantage of proper lines of support might enable more coal to be taken out.

1207. Would the pillars require to be regular or irregular?—They should be all on a regular system.

1208. Please look at this plan (Twining's): is that a judicious system of working, with reference to the width of the pillars?—Some of these are very narrow. Perhaps the coal thins out. Merely looking at the plan, I should fancy that in this case there must have been a thinning out or a fault, but there is nothing to show; otherwise, these supports would be very narrow.

1209. Is there any regularity in the method of working these?—If you have a seam that thins out in places you must alter the mode of working very considerably. You could not expect to work it with the same regularity as with a regular seam.

1210. Please look at this tracing (Bishop and Taylor's), and see if you see any difference in the mode of working?—The latter must have been drawn at a different stage of the development of the mine altogether. I think it has been commenced right enough.

1211. Would you think it advisable to take bords of this size (between the two main headings) out?—No; decidedly not. For instance, here is a space, 7 yards wide by 10 yards, without any support, and the thickness of the coal there is from 8ft. to 10ft.: the space is too large.

1212. *Mr. Chapman.*] You assume now that there was no object in keeping up this roof?—I assume that the object was not to protect workings beneath the seam.

1213. Do you now understand that these workings beyond the water-line are in the upper seam; that the workings marked red (map on the wall) are in the lower seam; but that the water, before it rose to the level in the upper workings, would flow into the lower seam through the shaft which intersects the upper seam 140ft. below the sea-level?—The papers shown to me show a dam to prevent the water getting into the shaft.

1214. Do you understand that it was put up with a view to keep the water out of the lower workings?—Of course that would be the object: to enable them to work the lower seam.

1215. Do you think it would be possible to fill the upper-seam workings and at the same time keep the water out of the shaft?—You could do so to a certain extent, and then begin pumping, and not allow the water to rise above the dam.

1216. Would you allow it to rise to the level of the dam?—No; the success of the pumping operation would depend on whether you could keep the water down to a certain level in the upper workings.

1217. If the sea broke into the upper workings you would not expect to pump against the inroad of the sea?—It would depend on the size of the orifice. It would be a matter of whether you could cope with the sea or not; but the sea would break in sooner or later.

1218. Do you think that the roof of the upper workings would be maintained longer by filling with water?—I do not think it would make very much difference; but, if anything, it would prolong the life of the mine. It would give a certain general resistance, but it would not give resistance against special falls in the roof. The pressure of the water would not act like props to the roof. The pressure would be greater in the deeper part of the workings.

1219. Then, the value of this hydrostatic pressure takes no account of any effect the water might have in disintegrating the shales?—That would depend on the character of the water.

1220. But supposing them to be dissolved by a, so to speak, mechanical process?—The space would very soon fill up with sludge.

1221. The water would rapidly dissolve such shales as there are there?—No; I did not say that. I said, if it did so, the space would fill up.

1222. If the person who examined the mine while the flooding was going on, and who was intimately connected with the character of the mine, had said that the shale was dissolved by the water, you would have nothing to contradict that statement?—If he says that the water dissolved the shales I should have nothing to say; but I have never experienced such a thing.

1223. You are not intimately acquainted with the mine at present?—No.

1224. Your attention has been called to some ground on the plans said to represent falls: would you attach much significance to them in the 3ft. seam?—The expansion of the strata would give the roof support again.

1225. The injury falls do, in a very narrow seam like that, is less than half what it is in a seam double the size?—I suppose the falls took place in consequence of the coal taken out. The injury would be the removing the lateral support to the other masses of coal; but that injury would cease when the packing relieved the weight.

1226. You have spoken of weighting mines, and the quality of coal that can be taken out. There is a considerable difference in what is shown on the two plans. Taking the parts of this (Bishop and Taylor's) plan unaltered, does this appear to you a safe and prudent mode of working a mine?—I think there is abundance of support left in ordinary cases.

1227. Even for submarine workings?—I should think so. The supports to the north of the part marked A appear a little confused and narrow. Certain irregularities are permissible, but they should be very carefully considered before being permitted in submarine workings.

1228. With reference to all coal-workings, I presume the method in different mines is left much