

134. Is that on hard-steel tires ?—I have taken that as the average. We are going 32 ft. on some of them. On wagon-axes we do the roughing work at 45 ft. per minute, finishing at 18 ft. per minute. The average of the milling-machines is about fifty-five revolutions per minute; the planing-machines vary from 22 ft. to 50 ft. per minute cutting. Our drilling runs at 150 to 198 revolutions per minute, and the feed in the drilling is  $1\frac{1}{2}$  in. to  $1\frac{1}{4}$  in. per minute.

135. In all cases you refer to the use of high-speed steel ?—Yes.

136. Have you taken out any costs of machine-work ?—The lathe-work for engine gear costs 4-3d. per pound (wages, of course); turning axles, 0-350d. per pound; boiler-mountings, brass, 6-3d. per pound; milling, 2-47d. per pound; drilling, 0-360d. per pound.

137. Do you frequently take out the costs per week so that you can compare ?—Yes.

138. Will you explain the method of time-keeping at Addington ?—The men enter the job-number and the time, and the sheet is taken out of their books and brought into my office and the time totalled up. From there it is taken on to the foreman, and then to the Locomotive Engineer's office for the purpose of pay-sheet. The time is taken off in my office for the purpose of compiling the Workshops accounts.

139. Do the foremen initial the men's time-sheets every day ?—Yes.

140. Which do you consider is the better method—the books to be taken to the foreman's office, or the foreman to go round with the books ?—On the whole, the books to be taken to the foreman's office. The men are scattered all over the place.

141. Generally speaking, do you take every opportunity yourself of being about the Workshops ?—I am there all day.

142. *The Chairman.*] You have two accumulators in the boiler-shop: what is their type ?—The ordinary type of accumulator; they came from Home.

143. As part of a plant or as accumulators by themselves ?—I could not say; they were there before my time. I rather think they came with the first hydraulic riveting plant, but I would not be absolutely certain.

144. When the new hydraulic riveter came out, was an accumulator sent with it ?—No.

145. Therefore there are two accumulators of the type usually used in conjunction with the hydraulic riveters ?—Yes.

146. And those have since been tapped for working other machines ?—That is so.

147. Has this given rise to any inconvenience owing to the accumulator running down ?—At times there has been inconvenience, but nothing extraordinary.

148. Could you give us a general idea of the pneumatic system in use in the shops—as to the number of stations where air is compressed, and as to the general run of the pipes and the use that is made of the system ?—We have the one compressor, and a reservoir close to it.

149. What is the type of the compressor ?—Ingersoll Rand.

150. What is its capacity ?—I think 350 cub. ft. of free air per minute.

151. How is it driven ?—By steam.

152. With an independent engine ?—Yes.

153. Simple or compound ?—Simple.

154. And from the compressor ?—We have a pipe-line running right up to the top end of the boiler-shop, and I suppose there are seven or eight stations for connecting up on that line.

155. What is the size of pipe ?—Two-inch. Then we have a pipe-line running down the erecting-shop for the purpose of the air tools there, and we also have it through part of the machine-shop for the air hoists. In fact, it goes right through the machine-shops for that purpose. We also have it laid over to the points-and-crossings shop to the air hoist there, and into the car-shop for the hoists and the Westinghouse brake.

156. Have you any system for reheating the air ?—No.

157. We were told this morning that Fitter Sloane had introduced a machine for cutting curvatures in boiler-plates ?—That is so.

158. That machine originated with yourself ?—That is so. I gave Sloane the idea and told him what I wanted, and he worked it out. I give Sloane the credit for working it out.

159. Did you give him sketches ?—Very rough.

160. He worked it out on your suggestion ?—Yes.

161. Was he ever recommended for any consideration ?—No.

162. It has been stated that May introduced some special tools for dealing with points and crossings: is that statement correct ?—That is correct; it was before my time.

163. We have heard from witnesses that there is a system in vogue which I think we now fairly understand, called the staffing system. What is your experience regarding the working of that system ?—It is inconvenient at times.

164. Have your hands been in any way tied or your authority in any way interfered with by this system ?—No.

165. Have you ever forwarded a strong recommendation with regard to the dismissal of a man which has not been acted upon ?—No.

166. All your suggestions have been concurred with, then ?—Yes, as far as I can remember.

167. You say you have noticed no loafing in the shops at all ?—I will not say none, but practically none—not more than you would see in the ordinary shop. There have been individual cases which have been taken up.

168. Comparing Addington with Hillside, is there any difference in the lay-out of the shops ?—A marked difference.

169. What is the effect ?—That Hillside is the cheaper shop to work.