

APPENDIX TO THE REPORT
 OF
 THE COMMISSIONERS.

VOLUME XVIII.

MINUTES OF EVIDENCE

RELATING TO THE

FACTORY AND BOILER
 INSPECTION DEPARTMENTS

Taken at Calcutta and Bombay.

WITH

APPENDICES.

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MINUTES OF EVIDENCE

TAKEN BEFORE THE

ROYAL COMMISSION

ON THE

PUBLIC SERVICES IN INDIA

RELATING TO THE

FACTORY AND BOILER INSPECTION DEPARTMENTS

At Calcutta, Thursday, 22nd January 1914.

PRESENT:

THE EARL OF RONALDSHAY, M.P. (*in the Chair*).

Sir MURRAY HAMMICK, K.C.S.I., C.I.E.
Sir THEODORE MORISON, K.C.I.E.

MAHADEV BHASKAR CHAUBAL, Esq., C.S.I.
ADBUR RAHIM, Esq.

M. S. D. BUTLER, Esq., C.V.O., C.I.E. (*Joint Secretary*).

R. P. ADAMS, Esq., officiating Chief Inspector of Factories, Bengal, Bihar and Orissa, and Assam.

Written Statement relating to the Factory Inspection Department.

80,044. (I.) *Methods of recruitment.*—I consider that the field of recruitment should be restricted to Mechanical Engineers of about 27 to 30 years of age who have had a liberal general education and a good theoretical and practical training in the United Kingdom and who can produce evidence of having held responsible positions relating to their professions. The appointment should, I think, be made in India by local governments, if possible, or in England by the Secretary of State.

80,045. (II.) *System of training and probation.*—I think a year's probation is necessary to afford an opportunity of ascertaining whether the probationer is suited for the duties of a factory inspector. In the case of appointments made by the Secretary of State, a portion of the period of probation might profitably be spent in England. This would similarly afford an opportunity of ascertaining fitness for the work.

80,046. (III.) *Conditions of service.*—I think it should be made a condition of service that newly appointed inspectors must pass the lower standard in Hindustani within two years or date of appointment, and the lower standard in Bengali within a further period of two years.

In view of the fact that out of 364 factories in these provinces, 235, including all the large textile factories, are situated in and around Calcutta within a radius of 25 miles, it is desirable that the headquarters of all three inspectors should be at Calcutta as at present.

80,047. (IV.) *Conditions of salary.*—I consider that the present scale of pay is inadequate, and would strongly urge that the two grades in this province be increased and fixed at Rs. 500-40-900 and Rs. 1,000-50-1,250, the increments to be annual in both grades. In this connection I would point out that the maximum pay of Mr. Walsh, the Chief Inspector, was fixed at Rs. 1,000 only, in consideration of the fact that he was drawing an additional allowance of Rs. 250 as Secretary of the Boiler Commission. With the growth of the Factory Inspection Department since the introduction of the new Factories Act, it has been found that the supervision of the two departments, Boiler and Factory

Inspection, by the senior factory officer is inconvenient, inasmuch as almost the whole of the Chief Inspector's time would be occupied with office work and he would not be in a position to give sufficient attention to visiting and inspecting factories, a duty which is obviously essential for the proper control of the department. Under the circumstances it has been arranged that the Chief Inspector should devote the whole of his time to the office and inspection work of his department, and that the second inspector should act as Secretary to the Boiler Commission. The maximum pay of the Chief Inspector of Factories in Bombay, who has no concern with boiler inspection work, has been fixed at Rs. 1,250, and the aggregate emoluments of Mr. Walsh, the Chief Inspector of these provinces, who is about to retire were, as explained above, also fixed at this figure, including the additional allowance of Rs. 250 from the Boiler Commission. As the rearrangement referred to above is in the interests of Government, it would not be unreasonable to urge that the maximum pay of the Chief Inspector of Factories in Bengal, Bihar and Orissa, and Assam should not be less than that of the Chief Inspector of Factories in Bombay. It might also be pointed out that the only Inspector of Factories in Burma rises to a maximum salary of Rs. 1,000 plus a local allowance of Rs. 100. As regards the lower grade, I have suggested that the maximum should be increased to Rs. 900 (the maximum in the Bombay Presidency), because the cost of living in Calcutta is very expensive and because it is possible that some of the inspectors would have to remain in this grade for many years or perhaps throughout their service, in which case they would be debarred from enjoying a privilege which all the other inspectors in India will enjoy, viz., the full pension of Rs. 5,000 a year after completion of full service. In this connection I would draw attention to the fact that in the Bombay Presidency five inspectors are engaged in inspecting factories employing 237,344 operatives, whereas in Bengal we have only three inspectors for inspecting factories employing 346,700 operatives. Moreover, in Bombay the boiler inspection work is supervised by a whole

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time highly paid official on a salary of Rs. 1,200 to Rs. 1,500, who is not one of the factory inspectors, whereas in Bengal the work of the Boiler Department, which is nearly twice as heavy as that of Bombay, is carried out by one of the three factory inspectors who receives an allowance of Rs. 250 (only). In Bombay only 2,025 boilers are subject to inspection, whereas in Bengal there are 4,317. Further, I would request that the officers of this department be either included in the Calcutta House Allowance Scheme or be provided with quarters. For many reasons the latter would be preferable. In Calcutta not only are rents exorbitant but in most cases landlords insist on long leases; consequently when an officer is compelled to avail himself of leave or to send his family home or to the hills, he is very often unable to sublet his house and has to pay rent for two establishments. If quarters were provided by Government, it would naturally be arranged that the official filling a certain post would occupy the quarters assigned to that post, and as the rent would presumably be 10 per cent. of salary, it would not be so great a hardship, as at present, to keep up the establishment when the official's family was away.

80,048. (V.) Conditions of leave.—As all the men appointed to the service in the province have been born, educated, and trained in the United Kingdom, I submit that it would be unreasonable to bring them under the Indian Service Leave Rules, and would strongly urge that they should be allowed to enjoy the European Service Leave Rules—a privilege allowed personally to Mr. Walsh, who is about to retire, and to the three inspectors recently appointed in England for

other provinces. I would also recommend that study leave, to be spent in Europe, be allowed to factory inspectors up to six months during entire service.

80,049. (VI.) Conditions of pension.—I think, in consideration of the age at which qualified engineers would be appointed to this service, the period of compulsory service should be reduced to 25 years, and the period of qualification for full pension on medical certificate to 20 years.

80,050. (VII.) Such limitations as may exist in the employment of non-Europeans.—As a large majority of the factories in Bengal are under the control of Europeans, I do not think it would be judicious to employ non-Europeans as inspectors.

80,051. (VIII.) Relations of the service with the Indian Civil Service and other Services.—The Factory Inspection Department is under the control of the Secretary to Government in the General Department. I consider this arrangement satisfactory.

80,052. (IX.) Any other points not covered by the preceding heads.—Motor cars are now used by all the inspectors in this province for most of the inspection work in and around Calcutta. The use of these cars is indispensable for the efficient carrying out of their duties, but there is a general complaint that the cost of running, maintenance and depreciation is not covered by the travelling allowance earned. This question has been referred to Government, and the inspectors have been informed in reply that the matter will be duly considered by the Public Service Commission.

Mr. R. P. ADAMS called and examined.

80,053. (*Lord Ronaldshay*.) The witness was officiating Chief Inspector of Factories for Bengal, Bihar and Orissa, and Assam, and had two assistant inspectors under him, who covered the same area. There was no separate establishment for Bihar and Orissa or Assam. There were thus, in his department, only three officers and a certifying surgeon, into whose conditions of service the Commission had to inquire.

80,054. The officers had to inspect all the factories in the three provinces, but the bulk of the work was within a 25-mile radius of Calcutta. The factories outside were inspected as convenient. The work of the certifying surgeon was confined to an area north of Calcutta, and he certified children in the large textile factories. In the south of Calcutta children were certified by the civil surgeons of the districts, because there were not sufficient mills on the south of Calcutta to justify the appointment of another whole-time certifying surgeon.

80,055. During the current year 40 additional factories had been brought under inspection, the number being now about 405, and there were still several in and around Calcutta not on the register. During the current year there would be at least another 50 factories added to the register and the existing staff would not be sufficient to deal with them.

80,056. The introduction of the new Factory Act in 1912 entailed a large increase of work for the inspectors.

80,057. All the officers possessed either the first-class or extra first-class Board of Trade certificate, the latter being a certificate granted, after a voluntary examination, to engineers who possessed superior qualifications, but it was not an essential requirement of the service, and need not necessarily be so.

80,058. A language examination was not required in the case of existing officers, as all officers had been in India for some time. In the written statement the suggestion was made that the inspectors should be asked to pass the lower standard in Bengali and Hindustani, but he should like to modify that, and say they should pass the higher colloquial examination in both. The majority of private firms were changing their examinations to a recognised colloquial test, which was also required in some Government departments. A good colloquial knowledge of the vernacular was required for the work of his department.

80,059. Factory inspectors should be placed on the same footing, as regards pay and prospects, as the officers in Bombay, because the work in Calcutta was considerably heavier than the work in Bombay. He had had no practical experience of the work in that province and could only make the comparison by means of statistics.

80,060. As the majority of the factories in Bengal were under the control of Europeans the service should be composed, for the present, of European officers. There were 55 factories employing about 14,000 hands, managed by Indians, and 350, employing about 350,000 hands, managed by Europeans. The officers of the department came into contact with the assistants of the different departments of the factory, as well as the manager, as under the new Act the manager could place the responsibility of carrying out the requirements of the Factories Act on his assistants. In the European factories all heads of departments were Europeans. The Indian factories were small, being mostly seasonal factories, such as jute presses, and were exempted from many of the restrictions regarding the employment of labour. Within the near future there would not be a sufficient number of Indian factories to require an officer for their inspection alone. It would be extremely difficult for Indian inspectors to deal satisfactorily with the European managers in mills. If Indians were to be trained for the work of inspectors their training should be that of mechanical engineers.

80,061. An inspector, going to England on leave, might be given a month or two of study leave, to inspect different factories in England, chiefly with a view to seeing the latest practice in connection with the fencing of machinery, and what was being done in the home factory department. It was not necessary to fix any particular period. The late chief inspector had gone on leave prior to retirement, and of the present officers only one had taken three months' leave on one occasion. The service was too young to have much experience in connection with leave. If an officer required long leave a substitute would have to be appointed temporarily, as the present cadre was too small to provide for leave vacancies.

80,062. The period of service for pension should be reduced on account of the late age at which officers were recruited. It was particularly necessary that recruitment should be at a late age, as a factory

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inspector had to have a very sound experience as a mechanical engineer, and he could not get that experience until he was 25 to 30. Also the arduous nature of the work had to be considered. A full pension after 25 years' service was put forward by the Secretary of State in calling for candidates for inspectors in Bombay, Burma, and other places about 12 or 18 months ago, and the India Office at the same time prepared for information of candidates a statement giving the chief leave and pension rules which practically agreed with what had been asked for in the written statement submitted by the factory department.*

80,063. The Boiler Commission supervised the whole of the boiler inspection of the province. The vice-president and secretary attended to office work and directed the work of the inspectors. All questions and disputes came before the Commission which sat once a month. The Commission was composed of the Commissioner of Police as president, three members appointed by the Chamber of Commerce (one representing the Iron Trades Association, one the Jute Mills Association and the other collieries) and three Government officers including a member of the factory department who acted as vice-president and secretary and was given an allowance of Rs. 250 per mensem. There was a case for a whole-time secretary owing to the work being sufficient to occupy the whole of a man's time. In the Boiler Department of Bombay, where they had only half the number of boilers to inspect as compared with Calcutta, there was a permanent man at Rs. 1,200 to Rs. 1,500 a month. The Commission recently suggested to Government the appointment of a chief inspector of boilers on a lower pay, to be under the vice-president, to attend to the office work. The salaries of the boiler inspectors and fees of the Commissioners were paid out of the funds of the Boiler Commission which were derived from fees levied for inspecting boilers. The boiler inspectors numbered six.

80,064. He himself acted as vice-president and secretary of the Boiler Commission for nearly 12 months and was disposed to think that the present inspectors were not the type of men required. Men of a better class with experience acquired in England were needed.

80,065. The employment of Indians as boiler inspectors was quite out of the question. In the first place it would be difficult for an Indian to be trained to the work, because the training involved working in boiler works at home or in mechanical engineering works, and the inspectors were mostly men who had been to sea and had had charge of boilers. Most of them had chief engineers' certificates from the Board of Trade. That was considered an essential qualification, but was not laid down in the regulations.

80,066. (*Sir Theodore Morison.*) He recommended an increase in the cadre on account of its necessity. He had asked for the appointment of an additional inspector from the beginning of the next financial year. There were evasions of the Factory Act going on at present, and he believed he could go into almost any large textile mill in Bengal at any time and find irregularities. It was impossible to prosecute for every little infringement that was met with, but an increased inspecting staff would allow of more frequent inspections. The inspections being so few and far between irregularities naturally occurred during the intervals. The managers of the mills were, however, doing the best they could in carrying out the requirements of the Act.

80,067. All the inspectors had motor cars purchased partly by loans from Government. The amount received for upkeep averaged a little over 5 annas per mile, while the actual expenditure worked out at over 8 annas. These figures were taken from the observation of three cars used by three different inspectors. The monthly expenditure would work out at from Rs. 200 to Rs. 250 per car. Government should pay an allowance sufficient to cover the expense of running the cars. A local police officer running a two-seated car was allowed Rs. 100 a month, and for a four-seated

car Rs. 150. Within a five-mile radius of Government House there were 142 factories for which the inspectors received no allowances. There were 41 factories within a ten-mile radius for which an inspector drew Rs. 5 for each journey. For all distances outside the 10-mile radius he received 8 annas a mile, and there were 50 factories outside this radius. A fixed monthly allowance should be given of about Rs. 100 to each inspector in addition to existing allowances. He believed the pay of factory inspectors in England started at 250*l.* a year and went up to 600*l.* and that they had to have some engineering training.

80,068. (*Mr. Abdur Rahim.*) The main duty of the inspectors was to see that the Factory Act was observed, and to prosecute for non-observance. The inspector of boilers did not prosecute, but simply inspected boilers and granted certificates. It was not the business of factory inspectors to give advice as to the running of factories, except in cases in which the safety of employees was concerned. There were many Indian factories in Bombay but no Indian inspector.

80,069. Magistrates did not inspect factories unless it was pointed out to them as necessary by the inspectors, or especially asked to do so by Government, and they had no power to go into a factory and pass any orders on technical matters. No police officer had power to inspect.

80,070. The difficulty of the employment of an Indian inspector was that managers and assistants would resent taking orders from him. Last year there were about 15 prosecutions altogether, and no prosecutions were ever instituted until many warnings had been given. The inspectors were frequently asked by factory managers to make more frequent investigations in order to keep labour in hand.

80,071. (*Mr. Chaubal.*) For infringements of the Act the manager was proceeded against, unless it was shown that the responsibility lay with any other person. Under the Act the manager was primarily responsible.

80,072. No one would be quicker to realise any want of respect towards an inspector than the Indian labourer, and if he saw that there was any want of respect on either the part of the manager or his assistants towards an Indian inspector, the inspector's position in the mill would be practically impossible. He did not mean to say, however, that the European manager would be disrespectful towards an Indian inspector.

80,073. An inspector could not inspect more than 40 factories per month, and if they were large jute mills the number would not be so great.

80,074. There was no objection to employing an Indian certifying surgeon.

80,075. The chief reason for the present pay was that inspectors were appointed on their present pay just prior to the introduction of the new Factories Act in 1912, and Government apparently based the pay on the number of factories to be inspected instead of on the number of operatives and the nature of the work in the province. There had been no increase since.

80,076. Under the Act, the factory owners were liable to be prosecuted if they did not declare their properties to be factories within a certain period. All factories were supposed to be registered, but there was a large number in the north of Calcutta not on the register, as they alleged they employed less than 50 hands, the number which would bring them under the Act.

80,077. (*Sir Murray Hammick.*) If a factory inspector took leave, the vacancy could not be filled up by one of the inspectors of the Boiler Department, nor would a boiler inspector be suitable. It would be quite impossible to bring boiler and factory inspectors on to one cadre. A factory inspector required not only a knowledge of engineering, but a fair knowledge of sanitation and experience gained in factories in England.

80,078. If domiciled Europeans had received a training in England, there would be no objection to their appointment. Conditions in England and in

* Vide Appendix XVIII.

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India were entirely different. In India an inspector had to be a mechanical engineer because he had constantly to deal with questions of machinery, whereas in England practically all the machinery was fenced under standards, which had been laid down for years. It was fatal for an inspector to go into a factory and order a machine to be fenced in an impracticable manner. Every factory in Bengal was splendidly ventilated. A trained engineer who had had a technical education was capable of seeing whether

a factory was sanitary or not. It should be remembered that a mill in Bengal covered about four times the area of a similar mill in a place like Dundee. It would be possible to recruit men in India from those who came out to join English firms.

80,079. (*Sir Theodore Morison.*) The Boiler Commission recommended candidates for the appointment as boiler inspectors, but the appointments were subject to Government sanction.

The witness withdrew.

At Bombay, Tuesday, 10th February 1914.

PRESENT:

THE EARL OF RONALDSHAY, M.P. (*in the Chair.*)

Sir MURRAY HAMMICK, K.C.S.I., C.I.E.

Sir THEODORE MORISON, K.C.I.E.

MAHADEV BHASKAR CHAUBAL, Esq., C.S.I.

ABDUR RAHIM, Esq.

And the following Assistant Commissioner:—

E. L. SALE, Esq. I.C.S., Collector of Bombay.

M. S. D. BUTLER, Esq., C.V.O., C.I.E. (*Joint Secretary.*)

D. R. MACINTOSH, Esq., Chief Inspector of Boilers, Bombay.

Written Statement relating to the Boiler Inspection Department.

80,080. (I.) *Methods of recruitment.*—No rules have been laid down for the appointment of inspectors of steam boilers. It is customary to advertise a vacant post and to select the most suitable applicant to fill the appointment.

The selection is made by the Collector of Bombay with the assistance of the chief inspector, and the selected candidate's application and testimonials are afterwards submitted to Government for approval and sanction to his appointment.

The qualifications which would influence the selection of a candidate are:—That he is a fully qualified mechanical engineer and holds a first-class Board of Trade certificate of competency as a marine engineer or a first-class certificate of competency issued under the Bombay Boiler Inspection Act; that he has good testimonials and references to his character, abilities, experience and service as an engineer, and has a good knowledge of boiler design, construction, and upkeep.

The system of recruitment is, in the writer's opinion, satisfactory; the staff being small and vacancies few, suitable men can be obtained when required without going out of India if the inducements offered are made sufficiently good to attract the right type of man.

80,081. (II.) *System of training and probation.*—An inspector's training as an engineer competent to examine boilers and determine safe working pressures for them is necessarily obtained before he enters the department. Such service usually consists of a five years' apprenticeship in a workshop where engines and boilers are made, perhaps a year more as a journeyman engine fitter or as draughtsman or assistant engineer. Then usually a number of years, perhaps seven or eight, as a marine engineer, commencing as a junior and ending as a third, second, or chief engineer. He may, at this stage, enter the department, or obtain experience in charge of mill machinery, or as workshop foreman or superintending engineer before doing so.

During the period at sea he qualifies for admission to the Board of Trade examination, which he must pass before obtaining his second and first-class certificates of competency. A candidate for an inspector's post has at least 8 to 10 years' experience in engineering before he enters the department, and is usually not much under 30 when he does so.

His training as a boiler expert usually begins only when he becomes an inspector, and his value as such increases to a great extent with the experience gained in this special work. An inspector should not be over 35 years of age when he enters the department, as the

work is of a trying character physically, and older men are very often out of touch with the calculation work required in determining pressures and strengths of boilers.

An inspector's appointment is in the first place probationary, which, after one year of approved service, is made permanent subject to passing a language test within two years from the date of appointment.

The training gained, as outlined in the foregoing, by an inspector before he enters the department, is, in the opinion of the writer, the best training for a boiler inspector.

80,082. (III.) *Conditions of service.*—The inspection staff consists of a chief inspector and seven inspectors. The chief inspector's appointment is held under agreement with the Secretary of State for India for a term of 5 years. The holder was selected for the appointment on the recommendation of the Marine Department, Board of Trade, from the engineer and ship surveyor's staff of that department. The other inspectors were recruited locally.

The duties performed by the junior inspectors are alike in all respects, but the first inspector, in addition, when he is not engaged in outdoor duties, assists the chief inspector in checking the calculation work of the other inspectors and acts for him generally in his absence.

The chief inspector's duties comprise: Supervision over the work of the other inspectors, especially in checking calculations for determining working pressures for boilers in accordance with the department's rules and in preserving a uniform system of inspection and practice; direction of all inspection work within the Presidency proper; supervision over the clerical staff in the keeping of registers, records, and accounts, dealing with all correspondence passing through the head office and with references on technical matters concerning design and construction of boilers; keeping the department's rules up to date and advising the controlling officer on technical and other matters concerning the working of the department; in short, managing the department.

Each of the junior inspectors inspects on an average about 300 boilers in a year, and makes about as many more minor inspections and visits to boilers for hydraulic and steam pressure tests, inspection of repairs, and such like purposes. More than half of the number of boilers inspected are scattered over the Presidency from Sind to Kánara, the inspection of which necessitates some of the inspectors being away from headquarters

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for long periods and the undertaking of many rail and road journeys.

The work of inspecting boilers is, especially in India, often of a very trying nature. The inspector has to enter hot boilers, crawl through confined and cramped-up spaces, perspiring and in discomfort, while at the same time carefully examining every part for hidden flaws, wasting, corrosion, and other defects affecting the fitness of the boiler.

His judgment must be well founded and quickly formed and he must not cause delay and inconvenience in deciding on the fitness of the boiler, nor must he lightly give a certificate for a boiler concerning which he has any doubts.

His work while on tour is, daily, the making of one to four inspections, with perhaps journeys by road or rail in getting from place, to place and afterwards attending to his office work, arranging for inspections, issuing certificates, and making calculations for new boilers.

He has to put up with very poor accommodation, sometimes in common waiting rooms of country railway stations, if such be available, and at other times is fortunate if he can find accommodation in a dak bungalow and is allowed to retain it.

The conditions attending prolonged tours in the Mofussil are not satisfactory to the inspector. Apart from the inconveniences and discomforts already touched upon, he is put to expense in having to carry his own food, drinking water, cooking utensils, and a cook to prepare his meals, while at the same time maintaining a home in Bombay.

The halt allowance of Rs. 3 per day which he becomes entitled to under section 1,063 of the Civil Service Regulations when he remains from midnight to midnight in one place has to cover his conveyance charges in getting from factory to factory by road, which alone often exceeds the total amount allowed.

For these reasons the inspector when on tour finds that he is more out of pocket than when at headquarters.

The travelling and halt allowances to officers under the Civil Service Regulations do not adequately meet the needs of the inspectors in the special conditions under which they work. The writer is of opinion that special provision in the way of travelling allowance is required in their case, and would suggest in place of the present allowances that the actual conveyance charges incurred be allowed, together with a fixed allowance for every day that the inspector is away from headquarters.

Inspectors receive no house allowance, although all, except one stationed in Karachi, have to live in Bombay, where living is expensive. With the present scale of pay the junior inspectors who live in Bombay deserve some concession under this head.

Two of the junior inspectors stationed in Bombay are in receipt of conveyance allowance of Rs. 50 per month each.

80,083. (IV.) Conditions of salary.—The salary of the chief inspector's post is Rs. 1,000-100-1,500, but the maximum he can attain during the term of his agreement, namely, five years, is, of course, Rs. 1,400, which amount he is at present drawing.

His service is non-pensionable, nor does he receive any kind of allowance.

The service of the junior inspectors is pensionable; one receives exchange compensation allowance. The first inspector's post carries a salary of Rs. 500-10-600, but the holder at present draws on his old scale of pay of Rs. 450-10-500 and will only attain the minimum pay of the post when he reaches his present scale maximum.

The junior inspectors are all on the same scale of pay, namely, Rs. 300-10-500.

It will be seen that if an inspector is over 35 when he enters the department he cannot attain the maximum pay of the appointment.

In the opinion of the writer the pay and prospects of a junior inspector's post are not sufficient to attract the right type of man to the department.

A man of the type required, say between 30 and 35 years of age, is nearly always settled down in a

much better paid post by that time, and would not look at a post on Rs. 300 per month, especially in an expensive place like Bombay. It is only when there are compelling circumstances, such, for instance, when a marine engineer desires to settle down on shore, that the better class of man would offer himself.

Cheap men can easily be had with correspondingly cheap views of the value of their services in return, and, very likely, with an eye to the main chance of providing for themselves in other ways as a set-off against a small pay.

An inspector must be a man of probity if he is to keep the respect of the public, and unless he does his work conscientiously and well he had better not do it at all; quasi-inspection is misleading and dangerous.

The writer thinks that the pay scale of the junior inspectors should be amended to Rs. 400-20-600 and that of the first inspector to Rs. 600-30-750.

80,084. (V.) Conditions of leave.—The inspectors are entitled to the ordinary privilege and furlough leave allowed to Provincial Service officers, that is, one month's privilege leave per year and one year's furlough leave after ten years' service, with a maximum of two years. The extent to which privilege leave may be accumulated, namely, three months, is, in the opinion of the writer, too short; he thinks it should be extended to four months, and that officers desiring to take furlough leave should be allowed six months after five years' service.

80,085. (VI.) Conditions of pension.—Previous to the year 1911 the service of the inspecting staff was pensionable subject to the solvency of the Boiler Inspection Fund, from which source the expenses of the department are entirely met. In that year it was changed to foreign service of the third kind, from which time Government of course undertake liability for the payment of pensions, the necessary contribution being levied on the fund.

The fund is a local fund and the balance to its credit is rapidly disappearing. It is likely in the not far distant future to have its balance absorbed, and the question may arise as to whence is to come the pension presumably earned by members of the staff prior to 1911.

The writer thinks that all pensions and part pensions earned before 1911 should be guaranteed by Government, and that, because of an inspector having to provide his own training before he enters the department and perforce having to join at a more advanced age than would be the case in another department of the public service, a more liberal treatment in the matter of pension rate should be accorded to him.

He also thinks that expenses of the department should be met from general revenues and that the balance standing to the credit of the fund should be taken over by Government.

The Act is primarily intended for safeguarding the public safety, and as Government enforce its provisions through its servants, any deficit in the department's revenue should be met from public sources.

80,086. (VII.) Employment of non-Europeans.—There are no non-Europeans on the inspecting staff, nor have there been at any time since the Department came into being nearly half a century ago.

The work of boiler inspection is of a highly technical character; and even at this stage of industrial progress in India the writer has no hesitation in giving as his opinion that the locally trained Indian mechanical engineer is not so well fitted by training, character, and experience for the work of boiler inspection as his European confrère. Among other reasons for this statement, are, that an Indian's training is defective at its commencement, when he is most impressionable, inasmuch as there is practically no recognised system of apprenticeship in India such as has been in vogue in Britain for generations, unless in large workshops under European management, and because an Indian of the class socially fitted for the position of a boiler inspector would be hampered by caste trammels and would look upon work in which he would have to soil his hands or clothes as derogatory to his dignity. From the writer's knowledge of the

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Mr. D. R. MACINTOSH.

[Continued.]

kind of apprenticeship served in mills and factories in this Presidency and of the kind of engineer turned out by them and by our technical institutions, he thinks that very few mechanical engineers who are natives of India would be capable of doing the work so efficiently as a European with the proper training.

Indian boiler owners would prefer European inspectors, and have little faith in Indian inspectors.

80,087. (VIII.) Relation of the service with the Indian Civil Service and other services.—As in the case of the Factory Department, the Boiler Inspection Department is in the administrative charge of the Collector of Bombay, a member of the Indian Civil Service, and has been so since the Act of 1873 came into force. Previous to that time the enforcement of the provisions of the Act was entrusted to a commission consisting of five members. At that time there was one inspector only, who acted as Secretary to the Commission, and was allowed to undertake private consulting work in addition to his official duties, which were confined to the town of Bombay. The department has grown very much larger since those days, and the Act is now in force throughout the whole Presidency.

A Boiler Commission, consisting of three members nominated by Government, is still provided for under the Act, which sits as a board of appeal in any case in which a boiler owner is dissatisfied with the decision of the inspector. The Commission has no administrative powers.

Although the Collector of Bombay is chief controlling officer, the collector of each district throughout the Presidency is in control of the inspector in his own district and is responsible for the working of the Act and the enforcement of its provisions there.

There is no connection between the boiler and factory departments further than both being under the charge of one controlling officer. Proposals were made for the amalgamation of the boiler and factory departments, but were abandoned. The writer is of opinion that if the staffs as at present constituted were amalgamated, little benefit would result. The time of the boiler inspectors is fully taken up in boiler inspection work. Their inspections are fixed by appointment beforehand and the work has to be done expeditiously. Inconvenience and loss would be caused if boilers

were to be kept idle unnecessarily while waiting on the inspector. With less boiler work a boiler inspector would be able to undertake factory inspection work, but as his visit to inspect a boiler would be known beforehand, it might not have the same value in certain directions as an ordinary surprise visit. This objection, however, would not count for much in regard to ordinary routine duties.

On the other hand, a factory inspector, unless a trained mechanical engineer, would not be competent to inspect boilers and determine their safe working pressures. The writer has little doubt, however, that in regard to efficiency the ideal factory inspector would be one competent to inspect boilers and other steam, gas, and oil engine plants and vessels under pressure generally, as well as the fencing and safe working of other machinery.

With regard to the boiler department, the writer considers the system of control, the practice of leaving all technical matters in the hands of the chief inspector, and the provision of a commission to hear appeals from boiler owners in certain cases, efficient and satisfactory. He thinks, however, that a step in efficiency would be made in the interests of boiler owners and others interested in boilers if one uniform standard for the design, construction, and system of inspection of boilers were instituted throughout British India.

The rules at present in force in the various provinces differ more or less from each other, and are liable to amendments tending to make wider differences. It is the case that a boiler might be passed in one province and objected to in another. Such cases mean inconvenience and expense to the people concerned, which would be obviated if the rules were the same in all provinces.

If uniform regulations were introduced throughout India, it would be necessary, in avoiding differences of practice and interpretations of the rules, to have all calculations for determining strengths of boilers, made by inspectors in various places pass through one office for check and approval of pressure.

This is the practice with all authorities and societies concerned with boilers in Great Britain, such as the Board of Trade, Lloyd's Register of Shipping, boiler insurance companies, &c., and is the only method of securing the necessary uniformity of practice.

Mr. D. R. MACINTOSH called and examined.

80,088. (*Lord Ronaldshay*.) Witness had held the post of Chief Inspector of Boilers in the Bombay Presidency for about five years. Before coming to India he was in the Marine Department of the Board of Trade as an engineering and ships' surveyor. He had spent seven or eight years at sea, and had an extra first-class certificate of competency. He served the usual apprenticeship, and had had experience of inspector's work with a boiler insurance company.

80,089. The staff of the Bombay Boiler Inspection Department consisted of the chief inspector, on a salary of Rs. 1,000 rising to Rs. 1,500, a first inspector on Rs. 500 to Rs. 600, and six inspectors on Rs. 300 to 500.

80,090. About one-half of the boilers on the register were situated in Bombay and there were two or three inspectors permanently stationed in Bombay, in addition to himself. The others travelled throughout the Presidency. One officer was permanently allocated to Sind. He acted under the direction of the collector at Karachi, but technically was under the chief inspector, all his calculations being sent to Bombay. Each boiler was inspected thoroughly once a year, which sometimes meant three or more visits. The department had nothing to do with factory inspection.

80,091. The posts of chief inspector and first inspector were established about five years ago, and were now open to the junior inspectors. There was no rule or order saying that they could not be appointed. He had no knowledge of any Government resolution which made it clear that these two appointments were beyond the aspirations of the inspectors, and he did not believe this was so. While there were competent men in the department, there was no reason at all why

they should not be promoted. All the inspectors were fully qualified mechanical engineers, and held either a Board of Trade certificate or a certificate given under the Boilers Inspection Acts in India. Three held the extra first-class certificate of the Board of Trade. The qualification of inspectors differed very little from those of the chief inspector and the first inspector, except in experience.

80,092. Experience with land boilers in mills was not absolutely necessary before appointment, as the officers received a much better training at sea, and their character was much better formed under sea discipline. Experience with marine boilers was not quite the same as with land boilers, but a man who was thoroughly acquainted with the former would have no difficulty in dealing with the latter, as a land boiler was less complicated. There was nothing in the contention that a man with experience only of marine boilers was insufficiently equipped for the department.

80,093. The first inspector assisted the chief inspector in the office in connection with the calculations sent in by other inspectors. Elaborate calculations were made of every part of a new boiler, and the figures had to be checked either by the chief inspector or by the first inspector, who also acted for the chief inspector while that officer was up-country. The work done by the first inspector could be done by an ordinary junior inspector who had sufficient experience, but he could not do it immediately on coming into the department, and it was necessary to have one superior post the occupant of which could act as the representative of the chief inspector during his absence.

80,094. The work of boiler inspection increased to the extent of about 150 boilers every year. At present

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the staff was quite sufficient, though sometimes hard-worked. There was no provision for a leave reserve, and when a man went away for six months a temporary man was taken on. If an officer desired to go for a month's leave, he took that leave in the slack season of the year, and thus no inconvenience was caused. Sometimes a temporary man was very difficult to obtain owing to the fact that the pay and prospects in the British India Steamship Company and other local steamship companies had increased so greatly that men would not come ashore and accept a post in the department.

80,095. No reserve was required for training. At one period the wrong type of man entered the department, and it got a bad name, but the class of men now being obtained was more satisfactory. The rates of pay, however, were not sufficient to attract the best class of men, and a difficulty had been experienced in getting a junior officer. It was necessary that the salaries should be increased.

80,096. The boiler fund was rapidly diminishing, and in the next four or five years would be entirely absorbed. Correspondence had lately taken place between the department and the Government. He himself had a much higher salary than his predecessor, and that was absorbing a good deal of the fund. There had also been an increase of one inspector, and the clerical staff had been increased as well. Also pension contributions were debited to the fund, and once the fund was absorbed he was not quite sure what was going to happen to pensions. When men joined they were under the impression that they would be entitled to a pension in any case, and did not consider that the pension was to come out of the fund. The Government should take over the fund and guarantee pensions in the ordinary way.

80,097. The earnings of the department would not be very much reduced by the establishment of the hydro-electric power supply, as it would not affect more than a hundred boilers in Bombay, and was only going to supply 30,000 h.p.

80,098. The Factory and Boiler Departments, as at present constituted, could not easily be amalgamated. Some of the factory inspectors were not engineers, and were not competent to examine boilers. There would be no difficulty about boiler inspectors doing the work of factory inspectors. The ideal factory inspector would be one who was competent also to inspect boilers, and if the departments were amalgamated an engineering training would be a necessary qualification of a factory inspector in the future. There would be considerable advantages in recruiting men competent to undertake the work of a combined department, because at present the officers of both departments were visiting the same places. A boiler inspector might be capable of doing cotton Excise work, which was part of the duty of factory inspectors, but he would rather leave that to an officer who understood the business. The inclusion also of the officers of the Smoke Nuisance Department would not be possible, as their duties were concentrated in Bombay. They had to be out every morning watching the chimneys.

80,099. The staff of inspectors could not be reduced, even if engineering clerks on a lower pay were appointed to assist in the office work. Moreover, an inspector was kept up to the mark by always being in touch with figures, and he would be apt to get careless if he passed on that work to someone else. Some of the boiler insurance companies in England had technically trained clerks who went through the calculations, but he did not approve of it. He had had to consider the matter very carefully five years ago, and had come to the conclusion that the present plan in the department was the best. The calculations were made only with regard to new boilers, and the appointment of technical clerks would in no way lessen the number of visits an inspector would have to make. In some cases it might be possible for an inspector to make two inspections if he had an engineering clerk working out his calculations, but those cases would be very few, as there were 2,000 old boilers to be inspected. The work of a technical clerk also would have to be checked.

80,100. If there was to be one set of rules relating to boiler calculations, strength, and design for the whole of India, it would be better to have the department made Imperial, and all the calculations passed through one office, in order to have continuity of practice. At present the departments in the various provinces were working in different ways, and there was a good deal of inconvenience and trouble caused thereby to boiler owners and importers.

80,101. (*Sir Theodore Morison.*) Some superintending engineers in mills received from Rs. 800 to Rs. 1,000 or even more, while an ordinary engineer might get from Rs. 300 upwards. The municipal mechanical engineer and mechanical superintendent of the Port Trust received about Rs. 1,500 a month. For a good man Rs. 500 to Rs. 700 was a reasonable pay, and such men would all be Europeans. There were some Indians in the mills up-country, especially in Ahmedabad, who received Rs. 800 to Rs. 1,000 a month, but that was more in the shape of fees for looking after a group of boilers than a fixed salary. There were very few European engineers in mills now, and they were generally consulting engineers. Probably there were not more than half-a-dozen altogether in Bombay. At one time they were nearly all Europeans. It had been considered whether it would not be possible to locate inspectors permanently in different areas. One was already in Sind, and consideration was being given to locating one in Ahmedabad, but very careful consideration would be required with regard to other places. The bulk of the work in Khandesh was seasonal in connection with cotton, and occupied only two or three months in the year. There was a good deal of travelling now to be done, but it was difficult to lessen it, because even in Ahmedabad the officer would have to travel long distances from his headquarters. The benefit of having the inspectors located in Bombay was that they could help them when the pressure of work was great.

80,102. Many of the 150 new boilers he had referred to were for the purpose of replacing old ones. He did not think that rate of increase would continue. In the cotton districts it was quite a common thing for people to set up small factories in order to join the association and participate in the profits, with no intention of ever working them. Thirty to 40 per cent. of the ginning factories up-country were lying idle every year, and that could not possibly go on. All the boilers in those factories had to be inspected.

80,103. (*Mr. Abdur Rahim.*) Recruitment for boiler inspectors was not confined to the Royal Indian Marine or Mercantile Marine. Several of the inspectors had had land experience in addition to sea experience, but none had come in with purely land experience. There was no bar against land engineers coming into the department.

80,104. There were not many Indians who went to sea as engineers, but they could obtain the training if they desired it by simply applying for posts of junior engineers in a steamship company. There were not many Indian engineers in the British India Company, but there were some in the smaller companies, chiefly Parsis. If Indian engineers could be obtained with the necessary qualifications there was no objection whatever to employing them, but he did not think the training in India was nearly as good as the training in England for a mechanical engineer, as there were practically no boilers or engines made in India. It was possible for Indians to get a training in England in mechanical engineering, and when he himself was serving his apprenticeship on the Clyde there were a number of Indians serving their apprenticeship at the same time. There was no rule excluding the employment of Indians, and no rules on the subject of admission at all. The selection was made by the Collector of Bombay assisted by the chief inspector. They looked through the applications, and picked out the most suitable men, and interviewed them personally. Applications were invited by advertisement, and quite a number of applications came from Indians but none of them had anything like the experience of the Europeans.

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80,105. He did not think millowners would look upon the Indian inspector with the same respect that they looked upon the European. He preferred to have Europeans in the department, but had no doubt that in years to come efficient Indian inspectors would be found.

80,106. (*Mr. Chaubal.*) The object of the boiler inspector was to provide for the safety of the public, and their duties and responsibilities were laid down under the Act. Under the Act a boiler must be under the charge of a certified engineer, and be inspected by an inspector once a year. If it was not certified it would not be allowed to be worked. It was very prejudicial, therefore, to the interests of owners, if the machinery was not certified, and it might therefore be thought they would take the greatest care to insist on their engineers keeping the boilers in working order, but as a matter of fact that was not done. A record of accidents was kept, and every accident was inquired into. There were about 12 to 15 minor accidents every year, but nothing involving very serious consequences to life. Notes were kept by the inspectors, and when a boiler appeared to be getting into a bad way the working of it was stopped, and it had to be properly repaired.

80,107. No doubt engineers employed by private companies would be competent to do the work of inspectors, but a man who was engaged continually examining boilers had more experience. A man in charge of a mill boiler probably did not examine it three times a year, whereas an inspector examined three or four every day. If mill engineers had experience they might make good officers.

80,108. He had formed the opinion that Indian owners would prefer European inspectors from moving about amongst them, and the statement applied to every part of the Presidency. He had had some correspondence with an Indian millowner in Baroda, who asked his advice on some difference of opinion he had had with the State boiler inspector. In the course of the correspondence the owner made remarks in disparagement of Indian officers.

80,109. The Indian boiler inspector would be hampered by caste trammels. Difficulty was always experienced in training Indian engineers, owing to their being averse to dirtying their hands.

80,110. Under the Boiler Act everyone in the Presidency having charge of a boiler had to possess a certificate.

80,111. (*Sir Murray Hammick.*) At one time there was a good deal of temptation to officers of the department, but he did not think that existed now. The divisions of the inspectors were generally changed once every two years.

80,112. He did not want a special staff for checking boiler calculations. The experience in all the large insurance companies in England, and in the Board of Trade, was that the system as now adopted in Bombay was the best. A mechanical engineer was required not only to check the figures but to see that they were properly applied. He had a technical clerk at present, but checked the figures after they left the clerk's hands.

80,113. One objection to the amalgamation of the factory and boiler departments would be that a factory inspector always made surprise visits, whereas a boiler inspector had to notify the owners so that the boiler might be ready for him. He did not think, however, that too much should be made of that,

because when it was known an inspector was in that district everything was even now made ready for him.

80,114. The travelling allowance was insufficient. Officers received Rs. 3 a day and second class when travelling by train. They had to make very long journeys, sometimes being away from Bombay for two months at a time. One man had been away for five months, and had to pay his house rent and family expenses in Bombay all the time. If an officer reached a town at 5 minutes past 12, on one night, and left the next night at 5 minutes to 12, he did not get his Rs. 3. He also had to pay for his own servant and luggage and the hiring of carriages. At Ahmedabad he, the witness, had had to pay Rs. 6 a day for carriages alone. When an officer did not halt the full 24 hours, he drew four annas a mile up to a limit of Rs. 3. Inspectors should be made first class officers or be given their actual expenses. He did not think any abuse could arise out of the latter method, as the inspector's diaries were put in showing all his movements, and the expenses of conveyances could be checked quite easily. By raising the travelling allowance to the first class, a better type of man would be obtained, as some men objected to travelling second class. In Bombay two inspectors received a conveyance of allowance of Rs. 50 a month, but there was no allowance given for living in Bombay. Some allowance should be given, as an inspector on Rs. 300 a month in Bombay could not live in a good locality. Boiler inspectors in England were not necessarily required to have a marine experience, but the Boiler Insurance Companies insisted on an extra first-class certificate, which was only obtainable by sea experience. It would be possible to grade the department right up to chief inspector, but if men were in graded posts they would naturally expect to get right up to the top.

80,115. (*Mr. Sale.*) A junior inspector during the last year had acted as first inspector.

80,116. The diminution of the boiler fund was partly due to the fact that pensions were paid from it, and that accounted for something like Rs. 11,000 or Rs. 12,000 a year.

80,117. Boiler inspectors gave notice of the date at which they would arrive at the factory, and the boiler had to be prepared for them, and if there was no spare boiler the machinery had to stop. In such a case, if the boiler inspector was also acting as a factory inspector he would not be able to see that the Factory Act was being carried out.

80,118. The engineer of a mill was sometimes manager of the mill, so that his pay included remuneration for engineering work and remuneration for managing; but he knew of one engineer of a group of mills who was not a manager and received Rs. 800. That man would not be willing to serve on the pay offered to a junior inspector.

80,119. An Indian who had gone through a training on the Clyde would be quite willing to serve on the pay of a junior inspector.

80,120. It did not follow that because a boiler was on the register that it would be inspected every year, as it might have been broken up or made into a water tank.

80,121. The service was graded at one time, and there was some slowness in promotion. A man might get to the top of his grade and have to remain at the same pay for years, and that was one of the reasons why the method was altered.

The witness withdrew.

C. WALKER, Esq., Inspector of Boilers, Bombay.

Written Statement relating to the Steam Boiler Inspection Department.

80,122. (L) **Methods of recruitment.**—Previous to 1895 it was the practice to recruit boiler inspectors from Europeans well advanced in years with practical mill experience only, with or without a qualified engineer's certificate. Under that method no inspector was employed unless he was over 40 years of age, and he was frequently expected to start on an initial salary

of Rs. 125 (one hundred and twenty-five rupees only) per mensem. Experience shows that good men of that age were not available at that, or even double that salary, and the result was, as may have been anticipated, that the department only attracted men who had failed to settle elsewhere, and to whom it offered no incentive to win a reputation, but, on the

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other hand, afforded opportunities of confirming weaknesses which had hitherto proved obstacles to success. Hence the traditions of the department.

About 1895 an effort was made to systematise the work of the department, and though no rules appear to have been published, the general principles recorded were—

(a) that recruitment was to be confined to Europeans, domiciled or non-domiciled;

(b) that selection was to be made from among candidates who had long practical experience in the charge and management of land boilers and engines who hold a first-class engineer's certificate of competency granted by a recognised authority, and who can calculate boilers, who are sober, active, and robust, and who have a colloquial knowledge of the vernacular, and sufficient education to make intelligent reports and conduct their office work.

On these rules the older officers now in the service were recruited, on the understanding that they were eligible to rise to the post of senior inspector, an appointment which then carried a salary of Rs. 650 per mensem. About 1903 this effort was departed from, and a senior inspector who was a purely railway man was appointed, in supersession of those appointed since 1895, on a salary of Rs. 650 per mensem. The Mill Owners' Association, in a letter dated April 1903, strongly protested against this departure from the practice of appointing men with mill experience. In 1907 their protest was justified.

In the year 1909 the appointment of Chief Inspector of Boilers, on a salary of Rs. 1,000-100-1,500, was created, and ultimately an officer, without mill experience, was selected and sent out by the Secretary of State on an agreement of five years.

In 1912, *vide* Government Resolution No. 27, dated 4th January 1912, General Department, the appointment of a first inspector on a salary of Rs. 500-10-600 was created, and an outsider appointed to it in India, and it was then notified that the salaries of boiler inspectors would be progressive, Rs. 300-10-500, and that the two superior appointments would be outside the pale of their aspirations. These orders have created a sense of uncertainty and dissatisfaction in the service which must affect future recruiting.

There is, however, another aspect from which the methods of recruiting must be considered in the future, which has come about by the vastly altered conditions in connection with the mechanical engineering profession in the Bombay Presidency. Twenty years ago the engineering staffs of mills consisted almost entirely of Europeans, mostly non-domiciled—it is now the exception to find an European. Over 80 per cent. of the engineers in factories, presses, and mills now are men of pure Asiatic origin, and many of this class go to sea, and qualify for and obtain certificates of competency of the highest degree procurable. Besides this, the proprietors of mills and factories are mostly Indians. The inspection of boilers in Native States is entrusted to men of the class mentioned, but it is said they lack initiative and self-reliance, and do not command the confidence of the steam using public. Be this as it may, the claims of the class to employment in this department will sooner or later have to be considered. A further reason for their employment will be the state of the fund from which the department is paid, as at the present rate of expenditure it must, within the next few years, on the reserve accumulated by most economical working in previous years being exhausted, become insolvent unless charges are raised. Besides this class of men, the technical schools and colleges of this country are putting out an increasingly large number of men who are exceptionally qualified to do what may be called the clerical part of a boiler inspector's work, *viz.*, the calculations from the data supplied by inspectors; at present a considerable portion of the inspector's time is absorbed in working out these calculations, whereas if men of the class mentioned were employed they would cost infinitely less, and the inspectors would have more time for out-door work.

In Great Britain marine boilers are inspected by the Board of Trade, while the inspection of land boilers for the purposes of the Factory Act are left to private bodies or associations, chief amongst which is the Manchester Steam Users Association. The former, in the consultative branch, employ junior inspectors or surveyors, and clerks for the theoretical work of calculating boilers, under the supervision of one of the oldest and most experienced inspectors. In addition to their technical training, a course of six months' practical out-door work with one of the older inspectors is insisted upon before they enter on their duties in the office.

It is clear that in 1909 it was the intention to introduce a similar system into the Boiler Inspection Department, for I believe Government was informed that the calculating work could be successfully done by an independent clerk under the supervision of the chief inspector. Sanction was requested for a clerk for this purpose on Rs. 50-60 per mensem, and obtained. This appointment has been made permanent.

In 1910 it was reported that 125 boilers had been calculated under the revised system, but as the work was heavy sanction was requested for a junior inspector on Rs. 300-10-350 to assist the chief inspector with the calculation work.

For the above reasons it is submitted that the department needs reorganisation, which might take the form of—

(a) Administration by a commission of four members under the presidency of the Collector of Bombay or a senior officer of the Public Works Department.

(b) An inspecting staff of inspectors to do the actual inspection work.

(c) A clerical staff to be called "engineer clerks" to work out the data furnished by the inspecting staff under the supervision of one of the oldest and most experienced inspectors.

If this was done the President of the Commission would be the administrative head of the department, who would get his technical or expert advice from the members of the Commission; the inspecting staff would consist of a fixed number of inspectors, all men of the same technical standard of education and training, as required by the Boiler Act; and the engineer clerical staff would consist of qualified Indians from technical colleges to work out data. Thus the chief inspector's post, which is a temporary one, could at the termination of the present incumbent's engagement be abolished, the number of inspectors reduced and put on a single grade with incremental salaries, as has recently been done in the Factory Inspection Department, and a limited number of engineer clerks could be engaged and put on a grade by themselves on incremental salaries of Rs. 100-150.

The above proposal is deferentially put forward as a practical remedy to the present discontent in the service, and one that is likely to meet with the approval of the steam using public who furnish the funds for the maintenance of the department.

80,123. (II.) System of training and probation.—None is required if the candidate for specific reasons has both mill and marine experience, as the requirements of the department necessitate the employment of men who are already trained and experienced and possess certificates of competency. Besides the department offers no facilities for training its own men.

If the proposal to reduce the inspecting staff and entertain engineer clerks to do the technical calculations meets with approval, they also will be men who have been trained, and are qualified before employment.

80,124. (III.) Conditions of service.—(a) *Official status.*—Government have granted to boiler inspectors the status of gazetted officers. In fact inspectors are not treated as such either in regard to allowances or actual recognition, and they are not admitted to the same position as factory inspectors, the chief of whom was drawn from the same class.

(b) *Appointment of the chief and first inspector.*—A condition of service which is detrimental to recruit-

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ment and keenness in the personnel is the fact that these two appointments, which have been made the prizes of the service, are not open to the officers who do the actual work of the department and come directly into contact with the steam using-public. It is needless to disguise the fact that this extraordinary decision has created widespread dissatisfaction, and the more so that no reason for adopting it has been given to the officers who have been thus publicly pilloried. Mechanical engineers all the world over are generally men of the same social status and of the same comparative standard of education.

(c) *Travelling allowances*.—The duties of a boiler inspector are extremely trying and arduous, and this fact, coupled with the great hardships an inspector has to endure due to rough and rapid travelling in all weathers, soon undermines the strongest constitution. This can be proved from the fact that the eight men who have passed through the service during 15 years, and who have either been superannuated or died of plague, fever, and dysentery, have only been able to put in an average period of seven years' service. And those still in the service are usually unfit after seven years, and compelled to go on long leave on medical certificate. His headquarters are in Bombay and his duties take him to all parts of the Presidency and at all times of the year. He cannot work to a programme and move in easy stages from town to town and district to district, but he goes from one place to another just as he is required, and often has to travel long distances by rail and road and off beaten tracks. The consequences are that he cannot move about with the essentials for ordinary comforts, and has to use and pay for modes of conveyance at extremely high rates, and has to use hotels, refreshment-rooms, &c., where he has to pay infinitely more than he receives in the shape of allowance. Take, for instance, an officer inspecting in a town where there are several boilers. In such a town he has usually to go to an hotel where the minimum charge for a day is Rs. 5. Mills and factories, as a rule, are far from the residential parts of towns, consequently he has to hire a conveyance, and if he has three or four boilers to inspect, each of which takes him the better part of an hour, his carriage bill before he gets back has mounted up. To meet such expenses the allowances of a second-class officer only are admissible to him, which means a maximum daily allowance of Rs. 3. This allowance he can only claim if he has halted for 24 complete and consecutive hours from midnight to midnight. It frequently happens that he reaches his halting place, say, five minutes after midnight, and after working for two days and spending four times his allowance for hotel expenses and carriage hire (earning perhaps fees amounting to Rs. 150 for the department during that time) he leaves again at 10 minutes before midnight, and thus foregoes his allowance for the two days and does not receive his out-of-pocket expenses incurred during his halt of 47½ hours. When travelling by rail or road he similarly gets second-class allowance, that is, double second-class fare by rail and four annas a mile by road. By rail he pays his own fare, his servant's fare, the carriage of his luggage, which necessarily is heavy owing to his having to carry everything with him, his coolies and cart-hire, &c., which means his invariably being out-of-pocket. By road he requires a tonga for himself and servant and a cart for his kit, the united charges of which come to more than the four annas a mile admissible. His official status is that of a gazetted officer, his allowance the same as that of an Indian clerk.

Assistant engineers of the Provincial Public Works Departments whose training is somewhat similar to that of a mechanical engineer, with the exception that he has not to go through eight years of severe training and hardship necessary to fit a mechanical engineer for a boiler inspector, and although both are gazetted officers, the former receives first-class travelling allowances while the latter second class.

The position is an unfair one, and it is submitted that boiler inspectors should be given the allowances admissible to all officers of the first class and a minimum daily allowance of Rs. 5 per diem, and a halt of

six consecutive daylight hours should entitle him to his daily allowance. For it may be noted that boiler inspectors usually commence their daily work at 7 a.m.

(d) *Conveyance allowance in Bombay*.—The fixed conveyance allowance of the inspector deputed for duty in the town and island of Bombay is Rs. 50 per mensem, while inspectors who are attached for temporary duty in Bombay get their actual expenses which is often double the above allowance. The fixed allowance is inadequate and does not cover the cost of maintenance of a conveyance. It was fixed a quarter of a century ago. Considering the area of a boiler inspector's duties, the allowance should be raised to Rs. 90 per mensem, or actual expenses under the Public Conveyance Act should be allowed. Government have already, in the case of the boiler inspector transferred to the Smoke Nuisance Department, recognised the inadequacy of the allowance, and in his case increased it to Rs. 75, although he has the same area to cover and the same mills to visit.

(e) *Presidency allowance or house-rent*.—Boiler inspectors, it is understood, are the only class of gazetted officers who have to reside in the Presidency town, and tour to all parts of the Presidency in the performance of their duties, which keep them away from headquarters for considerable periods at a time. This necessitates the maintenance of double establishment, for which, unlike officers of other departments, they receive no compensation. On these and the grounds which have induced Government to, as a general rule, grant Presidency house-rent, it is submitted that the boiler inspectors should be granted a Presidency allowance of not less than Rs. 100 per mensem.

(f) *Sind allowance*.—The local allowance granted to officers serving in parts of Sind should be extended to the boiler inspector posted to Sind, as he is subjected to the same hardships.

(g) *Medical attendance*.—There is an universal feeling among Government servants that the concession of free medical attendance to themselves should be extended to their families, and that special rates should be granted when they or their families have to go to hospitals as in-door patients.

80,125. (IV.) *Conditions of salary*.—The greatest discontent and dissatisfaction in the service owing to the present conditions by which junior inspectors are put on a progressive scale of pay Rs. 300-10-500 and the two higher paid appointments in the service are put outside their goal. The incremental system of pay being introduced to remedy admitted grievances has, if anything, made them more pronounced, as it has in no way improved their position or prospects. The inspectors, who rank as gazetted officers, feel they were treated without courtesy or regard when recommendations concerning their welfare were made without giving them a hearing. It is deferentially submitted that if it is necessary to pay a chief inspector Rs. 1,000-100-1,500 and a first inspector Rs. 500-10-600, junior inspectors with identical qualifications are unlikely to be had on Rs. 300-10-500. Besides, the recent orders have arbitrarily deprived officers who were engaged under the rules of 1895 of tested rights, and during the first half of whose services the large reserve fund, now being lavished on newcomers, was formed from fees earned by them by a policy of stinting salaries and allowances. It is obviously unjust to supersede tried and approved men.

Notwithstanding the disparity of treatment and the inadequate maximum to which the junior inspectors are to attain in 20 years. (Note.—Inspectors enter the Department trained and at an advanced age, and some will never reach this maximum, while few will benefit as regards maximum pension.) To raise the minimum of the boiler inspector's salary from Rs. 250 to Rs. 300 and to leave the maximum untouched, in their case, is to apply an imperfect remedy to their admitted existing disabilities. With the salary of the highest grade at Rs. 500, the Collector of Bombay was unable to find a trustworthy man, and that was one of the reasons for suggesting a time-scale of pay, which on examination compared so unfavourably not only with the salaries of the two highest paid appointments of the department,

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but with the higher appointments in the provincial branches of *inter alia*, the Public Works, the Forest Department, the A'bkári, the Factory, and with the superintendent grades of the Bombay City Police. The headquarters of the Boiler Inspecting Department is Bombay, and boiler inspectors are subjected to all the disabilities which induced Government to fix, in the case of the Bombay City Police, the pay of the superintendent grade at Rs. 400-50-600. Looking to the qualifications and experience demanded of the boiler inspectors at the time of entering Government service, and obtained by them at great hardship and expense after years of training before entering Government service, the time-scale of Rs. 300-10-500 may be revised in the case of the junior inspectors, and they be granted an uniform salary of Rs. 400-30-900, as recently sanctioned to the junior factory inspectors, who, with the exception of the chief, have not, as a rule, undergone the severe and expensive training which a boiler inspector has to go through before entering Government service. The privilege allowed other services put on the time-scale, of counting the whole of one's service on that scale, might also be sanctioned in the case of boiler inspectors. If accepted, this will tend to bridge the difference between the maximum pay of inspectors Rs. 500, and that of the chief inspector Rs. 1,500, and would compare more favourably as regards difference of salary between the chief and juniors with the kindred service, *i.e.*, the Factory Department. In this service the average difference is 38 per cent., while in the case of the Boiler Inspection Department the difference is 200 per cent. In addition, it will give all inspectors below the rank of chief inspector equal treatment, as is the case of the above-mentioned department.

80,126. (V.) Conditions of leave.—It is probable that radical changes in leave rules will be made as a result of the deliberations of the Decentralisation Commission. Owing to the arduous duties boiler inspectors have to perform, and the fact that they enter Government service as experts, at an advanced age, they should be allowed better leave rules, *i.e.*, six months' furlough after five years' service (this is what is allowed to engineers of private companies). They should also be allowed to accumulate their privilege leave for four months.

80,127. (VI.) Conditions of pension.—The Boiler Inspection Department is *unique* in this respect. Prior to 1912 boiler inspectors were gazetted officers of Government under a local fund maintained by fees from the millowners, and pensions were only guaranteed while the fund was solvent.

In 1911 Government changed them to officers of the third class of Government and lent their services to the Boiler Inspection Department; at the same time Government took the responsibility and guaranteed their pension from that date only, and specially declared that they were not responsible for pension prior to that date. The fund in 1909 was in a flourishing condition, and had a reserve of about Rs. 1,94,000, ample for guaranteeing all pensions. Government has since radically changed their policy, and instead of adding an annual surplus to the fund are dissolving it at a rapid rate of Rs. 20,000 to Rs. 25,000 per annum, thus jeopardising pensions prior to 1911.

There is a likelihood in the near future of the earnings in the department being reduced by at least 25 per cent. due to the hydro-electric power supply to mills in Bombay in place of steam power. It is obvious that if the present rate of expenditure has to be met, and provision made for pensions, the present fees charged millowners for inspection must be greatly enhanced, and it is questionable if the millowners will willingly submit to this. Government should therefore stay the rapid dissolving of the reserve fund, and lay by sufficient to cover the risks of all pensions earned prior to 1911. Assuming a pension is deferred pay, those in the department prior to 1911 and those now drawing pensions are entitled to represent the risk Government are exposing them to. They should receive a guarantee from Government for their pensions prior to 1911 in addition to what has already been guaranteed.

Civil and mechanically trained engineers of the Public Works Department and the Telegraph Department, presumably technically trained men who enter the service at a more or less advanced age, and who do not receive their training from Government, are given advantages as regards pension. Boiler inspectors labour under all those disabilities and those mentioned under the heading of "Travelling allowances," and should be given the same advantages.

80,128. (VII.) Such limitations as may exist in the employment of non-Europeans.—Indians are not admitted to the grade of inspectors in the Steam Boiler Inspection Department and Anglo-Indians are debarred from the two higher appointments.

80,129. (VIII.) Relations of the service with the Indian Civil Service and other services.—The Boiler Inspection Department is under the administration of an officer of the Indian Civil Service.

80,130. (IX.) Any other points within the terms of reference to the Royal Commission not covered by the preceding heads.—A scheme is appended that will remove most of, if not all, the disabilities boiler inspectors labour under, which have been set forth under the foregoing headings; and if carried out will be equally beneficial to Government, the departments enumerated, and to the industries in general.

80,131. *Scheme Proposed.*—The amalgamation of the Boiler Inspection, the Factory, and the Smoke Nuisance Departments, as all three departments are analogous because—

(a) The class of work done by the three departments have (as it were) their origin in the one building and industry, and are under the one technical officer in all private concerns.

(b) The three departments are concerned with mechanics and steam.

The Boiler Inspection Department inspects the boilers and motive power.

The Smoke Nuisance Department inspects the chimney and is concerned with the fuel used in the boilers inspected by the Boiler Inspection Department.

The Factory Department inspects the fencing and working of the machinery put in motion by the boilers and prime movers.

(c) In a mill or factory all three of these branches or departments are placed under the mill engineer, who, in addition to keeping the mill moving with as little smoke through the chimney as possible, is in charge of the mechanics shop of the mill, and is responsible for the repairs of the textile machinery, keeping these in running order, and fencing them as required. Boiler inspectors, up to 1903, were drawn from this class of engineer, and the Mill Owners' Association specially requested Government in April 1903 not to depart from the practice.

The Chief Inspector of Smoke Nuisance, Bombay, has been drawn from this class of engineer, and from the Boiler Inspection Department.

The Chief Inspector of Factories, Bombay (an officer whose experience and knowledge led to his being selected and deputed to Calcutta as an expert on the Factory Commission), has also been drawn from the same class:—

The Chief Inspector of Factories	} Madras.
The Chief Inspector of Boilers	
The Chief Inspector of Factories	} Bombay.
The Chief Inspector of Smoke Nuisance	
The Chief Inspector of Factories and	} Provinces.
Boilers (combined)	
The Chief Inspector of Factories and	} United
Boilers (combined)	
	Provinces.

It will thus be seen that the Governments of the several Provinces have independently learned by experience and accepted that engineers trained in general mill experience, in addition to marine, are essential.

At present in the Bombay Presidency all three of these departments merge into one administrative head. Why should not each separate unit be made interchangeable, since their training experience and material necessarily are the same.

The only one duty foreign to a mechanical engineer is *Excise work*, and, as is the case in other Provinces

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beyond Bombay, it could be separated and placed under a distinct officer.

The Government of Bombay have recently created an appointment of a *pumping expert engineer* to inspect the pumping plants of Mofussil municipalities. At present in Bombay, as in other provinces, the boilers and prime movers attached to these pumps have to be inspected by the Boiler Inspection Department.

In the Madras Presidency the duty of pumping expert is attached to the duties of the Boiler Inspection Department, and the Boiler Inspector, in addition to inspecting the boilers and prime movers working the

pumps, also inspects and advises the Mofussil municipalities on all matters relating to their pumping installation, and has worked satisfactorily for 20 years.

I would propose, as all the four departments whose duties (with the one exception of the Excise noted above) are analogous, and the class of men and training required in the four departments analogous, that they be welded into a single homogenous service as shown below. Placed under the Commissioner, and localised in each division for travelling work, and under the administration of a president and commission at headquarters for technical matters:—

Maximum Salaries of Officers of Four Departments.

	Factory.	Boiler.	Smoke.	Pumping.
	Rs.	Rs.	Rs.	Rs.
Chief Inspector - - - - -	1,000-1,250	1,000-1,500	500-750	1,500
First Inspector - - - - -	—	500-600	—	—
Inspectors - - - - -	400-900	300-500	300-400	—
" - - - - -	400-900	300-500	—	—
" - - - - -	400-900	300-500	—	—
" - - - - -	—	300-500	—	—
" - - - - -	—	300-500	—	—
" - - - - -	—	300-500	—	—
Total - - - - -	4,850	5,100	1,150	1,500

Total, Rs. 12,600 per mensem or Rs. 1,51,200 annually.

Proposed Amalgamation.

	Bombay.	Northern Division.	Southern Division.	Central Division.	Sind.
	Rs.	Rs.	Rs.	Rs.	Rs.
Chief - - - - -	750-1,000	750-1,000	750-1,000	750-1,000	750-1,000
Inspectors - - - - -	400-600	400-600	400-600	400-600	400-600
" - - - - -	400-600	100-150	100-150	100-150	100-150
" - - - - -	400-600	—	—	—	—
Engineer clerks - - - - -	100-150	—	—	—	—
" - - - - -	100-150	—	—	—	—
Total - - - - -	3,100	1,750	1,750	1,750	1,750

Total expenditure, Rs. 10,100 per mensem or Rs. 1,21,200 annually.

In addition to a saving of Rs. 30,000 per annum, savings in travelling expenses, and other minor charges incidental to an amalgamation of four departments, and a more efficient and homogeneous service will be the result. It may be mentioned that the Government of India suggested an amalgamation 10 years ago. The Chief Inspector in Bombay would be responsible to the present administrative head, the Collector of Bombay for all three departments, and he and his men would be qualified in all three branches.

The chief inspector in each division would be responsible to the commissioner of his division for four departments and his men would also be qualified in all four branches.

Advantages.—The chief in each division would be in closer touch and have better control in his district, and have a more manageable area to work, than under the present system. Bombay is now headquarters for all the departments, and is a far-off cry from the remote points of the Presidency; casual visits under the Factory and Boiler Act could be more frequent and effective, travelling allowances would be considerably reduced, for the long runs from Bombay to the extremities of the Presidency and Sind would be avoided. The number of journeys would be curtailed, for a combined inspector could pay casual visits for the purposes of the Factory Act, the Boiler Act, and inspecting pumping plants at the same time, and in large towns under the Smoke Nuisance Act when extended. The Smoke Nuisance Act must sooner or later be extended to large industrial towns such as Ahmedabad, Karachi,

Poona, Hubli, and these towns would be the headquarters of the divisional inspectors. Besides it is in such large Mofussil towns that municipalities have pumping plants, and require the services of a pumping expert, who would be on the spot when required. With the addition of engineer clerks, the inspectors will be relieved of technical office work and could devote more time to out-door work.

It may here be noted that the British Board of Trade a few years ago employed both shipwright and engineer surveyors, one to inspect the hulls and deck appliances and the other the engines and boilers or motive power; experience, however, showed them that the mechanical engineer could best perform the combined duties, and they now employ engineer surveyors or inspectors for the combined duties. The same practice was subsequently also introduced into India for marine engineer surveyors or inspectors.

Financially the combination would benefit, for the present approximate income of the boiler inspection department is 75,000 per annum, made up from fees, and is a distinct fund. (The present fees for small boilers, however, need re-adjusting, with the result that the income will be increased.) The boiler fund could then be absorbed in revenues, and would alone provide half the funds necessary to work all four departments.

Against this scheme it may be urged that factory inspectors are a better class of men; this, however, if carefully investigated, will be found to be sentimentality. No doubt the class of men recruited in the

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Boiler Inspection Department in the past, on such low salaries of Rs. 125 per mensem, gave rise to this idea, but in those days these very men were drafted into the Factory Department as well. And it is noticeable that as better salaries were offered the standard improved in both departments. If there were defects in the personnel of the men recruited 20 years ago under the old system, it was due to the methods of recruitment, and the policy of stinting wages and allowance, and accumulating a large reserve fund, from the fees paid by boiler owners for the inspection of their boilers. Therefore, if the scheme is to be a success, the assistant inspector's grade will have to be carefully recruited.

I would suggest that it should be recruited in the following manner. Applications should be invited by advertisement from candidates with first-class Board of Trade marine engineer's certificates, with at least three years' practical experience as engineers in charge of cotton mills or large factories; this should be one of the conditions. The British Board of Trade insist on at least five years' service for their candidate. The candidate not to be under 23 years or over 35 years of age. A limited number of the applications should be selected by a board composed of the administrative head assisted by two senior inspectors.

The applicants so selected to be invited to an interview with the above board, and, *without racial prejudice*, a limited number selected to compete at a competitive examination in English and subjects connected with their duties, and those who get the highest number of marks selected for the vacancies. After which the candidates should be examined for physical fitness. This is the usual course adopted by the Board of Trade,

the Manchester Steam Users Association, and similar bodies in Great Britain. The candidates would then enter on probation for 12 months prior to confirmation. After the required period of service to qualify them for the privilege under the rules laid down by Government, they should be given study leave to proceed to Great Britain and pass a test in a boiler and factory inspectors' duties under the Board of Trade. The necessary arrangements could be made with the Board of Trade, as the Government did about 1900 for officers of the Local Indian Marine who desired to become marine surveyors and inspectors for the dual appointments of shipwright and engineer surveyors, and as Government recently arranged for one of the inspectors of the Bombay Boiler Inspection Department to qualify as an engineer surveyor or inspector. On returning after qualifying, he would be eligible for promotion to the rank of senior inspector, as a vacancy occurred.

It may be added that this test would similarly qualify him as an examiner of engineers, as is the case with the Board of Trade senior surveyors both in Great Britain and India. Chief inspectors should be eligible on the board of examiners under the Bombay Boiler Inspection Act, and are far better trained and experienced for this special work. The British Board of Trade allow no other class of examiner. They should not be perpetually punished for any alleged irregularities on the part of any senior inspector of the past.

In fact it would be more advantageous to Government and the industries alike, for they would obtain the correct class of examiner. Such is the practice of other similar bodies in Great Britain in addition to the Board of Trade.

Mr. C. WALKER called and examined.

80,132 (*Lord Ronaldshay*.) Witness was a junior inspector of boilers, and had been in the department for 19 years. He had served as chief engineer at sea, and then became superintending engineer of a mill in Southern India, and was recruited from that position. He represented the officers in the department, who had all agreed to the written statement which had been put in. He desired to see the amalgamation of the boiler department, factory department, and smoke nuisance department, and he thought that would be quite possible with the existing staffs. Every officer should be able to do the work of the three departments, and inspection work would be interchangeable. At present, except the chief factory inspector, factory inspectors would not be capable of inspecting boilers, but he would provide for them by separating the excise cotton work, handing it over to a special branch. The excise work was separate in other provinces. Excise work would only occupy two out of the four factory inspectors, and the other two would have to continue to inspect factories until they died out.

80,133. A scheme of amalgamation was considered some time ago and abandoned, one of the reasons being that a factory inspector, if also a boiler inspector, would have to visit the boiler when the factory was working. His answer to that was that a boiler inspector had to pay casual visits to factories while they were working for the purpose of seeing how the boilers were acting, and at such times he would inspect the factories. Another reason for the abandonment of the scheme was financial difficulties. The boiler fund was made up of fees paid for inspection, while the other fund was a Government one, and there was some difficulty as to the apportionment of the expenses to the two funds.

80,134. The number of inspectors in the department might be reduced, and the calculating work done by engineering clerks. He had heard the objections put forward by the last witness, but was of opinion himself that the calculating work could be done by technical school boys. The data would be filled in by the inspectors and sent on to the clerks to be worked out, and would be checked by the senior or an experienced inspector. That was done in England. If that scheme were carried out two engineering clerks

could be substituted for two inspectors, and the other inspectors would be able to do the whole of the inspection work. Prior to 1909 there were only four inspectors to inspect 1,800 to 1,900 boilers. At present there were twice the number of inspectors to inspect a little over 2,000 boilers. As none of the boilers exploded at that time he took it for granted they were as well inspected as they were now.

80,135. He had not a copy of Government Resolution No. 27, dated 4th January 1912, with regard to the eligibility of inspectors for the two senior posts in the department, but the words quoted in the written statement, though not the exact wording of the resolution, expressed the intention of Government. The rule was issued in the belief that superior qualifications were necessary in order to make calculations with regard to boilers. The qualifications of the junior inspectors, from a technical point of view, were the same as those of the senior officers, so that that reason fell to the ground.

80,136. The request for free medical attendance for officers and their families was made not only for the factory and boiler departments, but for all other departments. Engineers in private employment often received such benefits, as mills had their own doctors and dispensaries, and the families were attended without charge.

80,137. There was a difficulty in getting boiler inspectors with mill experience, which was essential. An officer should have had a knowledge both of land and marine boilers. The working of both was much the same, but they differed in design. Land boilers were much longer than marine boilers, and long boilers gave more trouble. As far as the men in the department were concerned, he was quite satisfied, but he was not satisfied with their experience.

80,138. He based the claim for higher salaries on the salaries paid in the factory department. In the mills in Bombay some engineers received from Rs. 700 to Rs. 900, and that was the class of man wanted in the department.

80,139. There had been no complaints of the way in which the work was performed by the present department. The boiler owner would not complain as long as he could get the boiler pressure he desired. In recent years there had been several explosions of

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boilers that had been guaranteed, and therefore it must be taken that the practical part of the inspection had been deficient, and he attributed that to the want of mill experience on the part of officers. Definite cases could be quoted in support of this statement.

80,140. The Government were rapidly absorbing the boiler fund out of which pensions had been paid, and there had been some correspondence on the subject, but officers of the third class were told when appointed in 1912 that the Government would not be responsible for pensions prior to that date. The reduction in the fund affected three officers, himself and two who were now on pension. The others would lose but a small portion, and they would have about seven years' service. If the fund became exhausted men now drawing pensions would get nothing. He was the only officer in the department at the present time who would lose seriously.

80,141. (*Sir Murray Hammick.*) He was promised a pension from the fund when he first joined the department, but since 1912 the men who had joined were given a pension from the ordinary boiler fund, but guaranteed by Government. The management of the fund was in the hands of the collector and the chief inspector.

80,142. With regard to allowances, a Mufassal inspector working in Bombay drew his actual carriage hire, which might work out to Rs. 4 or Rs. 5 per day, while a man who lived in Bombay only drew Rs. 50 for conveyances. The idea was that a man could hire a carriage in Bombay for a month for Rs. 50, but that was impossible. It was not possible for an officer to use bicycles, as he always had to carry his kit and his tools.

80,143. It was true that a recruit on entering the department was aware that he would have to live on his salary in Bombay, but when he joined the department it was possible to get a house on Rs. 50, but now he had to pay Rs. 120 for the same house.

80,144. (*Mr. Chaubal.*) He received his theoretical education both in India and in England, the Indian training being obtained in technical night classes, the English in a Government engineering school. That theoretical training, with the practical experience subsequently acquired, enabled him to carry on his

duties satisfactorily. The witness was examined in theory and practice as a boiler inspector by the Board of Trade authorities in London at the request of the Secretary of State for India, and by the Manchester Steam Users Associations in Manchester. He was declared fully qualified for a boiler inspector by both bodies in 1909.

80,145. There was no rule prohibiting the employment of Indians, but it was a practice not to admit them.

80,146. (*Mr. Abdur Rahim.*) He could not definitely say whether millowners objected to Indian inspectors. He had not come across any objection. A few Indians went to sea and qualified for first-class Board of Trade certificates, but the field was not large enough to select good men from. An Indian training was identical with that of a European training, and an Indian sea training was identical with a European sea training, except that an Indian obtained his training out of an Indian port, while in England it was obtained out of an English port. To qualify a boiler inspector to rise to the higher posts it was necessary for him to have a certain amount of training in England, after the ordinary training of an engineer. It was quite possible for Indians to obtain that training in England.

80,147. (*Mr. Sale.*) The duties of a boiler inspector were arduous, and undermined the strongest constitution. In such a small department the death of one man after a very short term of service would make the average appear rather higher than it was, but one man had died of a disease contracted while on duty after two months' service in the department, and another after one year's service.

80,148. He attributed the large number of explosions of recent years to the want of mill experience on the part of inspectors. Three of the present inspectors had had mill experience, and he would go so far as to say that no explosions had occurred in connection with boilers that had been inspected by officers with mill experience. The explosion was probably due to lack of experience of land work, but accidents might occur to boilers that had been very carefully inspected, or new boilers might burst if carelessly looked after.

The witness withdrew.

N. N. WADIA, Esq., Representative of The Mill Owners' Association, Bombay.

Written Statement relating to the Boiler Inspection Department.

80,149. (I.) Method of recruitment.—Prior to 1903, inspectors were recruited from local men who had practical experience in mills, who possessed certificates of first-class engineer, and who were capable of calculating and arriving at pressures to be allowed to boilers under the rules of the Bombay Boiler Inspection Act. In 1903 this association learnt that the post of senior boiler inspector was to be filled by a person who had no practical experience of mill boilers, and a letter was therefore addressed to the local Government submitting that a person with practical experience should be appointed. This representation was apparently ignored by Government, and a Mr. Davidson was appointed. On his retirement, Government, on a strong recommendation from this association, requested the Secretary of State to send out a capable man, and this resulted in the appointment of Mr. McIntosh, the present chief boiler inspector. This official has proved capable, although his experience had been confined almost entirely to the marine type of boilers. It is felt the method of recruitment in this case was wrong, inasmuch as it is of the utmost importance, in our opinion, that all boiler inspectors should have experience in the working of land boilers; because the conditions under which the two types are worked differ so materially. Since the appointment of the present chief boiler inspector Government have appointed two new inspectors who were recruited from the Mercantile Marine Service and who have no experience in the working of land boilers. We are of opinion that these appointments should be open to engineers of the Royal Indian Marine, Mercantile

Marine, and to all land engineers holding first-class certificates, of any nationality. Government would then have a much wider field at their command from which to select really suitable men.

80,150. (II.) System of training and probation.—Inspectors should have at least five years' training at sea, which qualifies them for chief engineers' certificates under the Board of Trade rules, or five years' training in mills or factories in England or India or elsewhere, which qualifies them for a first-class engineer's certificate. They should further be required to have served at least five years as chief engineer at sea or as chief engineer in charge of boilers on shore.

80,151. (III.) Conditions of service.—Boiler inspectors should have the same status as gazetted officers and should have the same salaries as those obtaining in the Factory Inspection Department.

80,152. (IV.) Conditions of salary.—It is understood the chief boiler inspector is paid Rs. 1,000 per month, rising to Rs. 1,500 per month by annual increments of Rs. 100 per month. First inspector's salary Rs. 500 to to Rs. 600 by annual increments of Rs. 10 per month. All the junior inspectors receive Rs. 300-500 by annual increments of Rs. 10 per month. The salaries of the latter officials are, in our opinion, far too low. To receive their maximum pay, inspectors have to work in the department for 20 years. It is felt good men with practical experience are not inclined to take up the heavy duties of boiler inspector when engineers in the local mills receive Rs. 500 to Rs. 700 per month. We are of opinion the pay of

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inspectors should be Rs. 500 to Rs. 700 per month, reaching the maximum by annual increments of Rs. 25 per month. In view of the fact that the work of all inspectors is identical, we feel there should be no distinction between them; that is, there is perhaps no necessity for a "first" inspector. We would recommend that a suitable house allowance should be granted to all inspectors. Mill engineers in Bombay are provided with free quarters. The present allowance of second-class fares and Rs. 3 per day for inspectors sent up country, especially in outlying districts, is considered to be inadequate, and we recommend a revision of the scale.

80,153. (V.) and (VI.) Conditions, leave, and pension.—We are of opinion that pension and leave rules should be the same as those laid down for uncovenanted officers in Government employ.

Factory Department.

80,154. (I.) and (II.) Method of recruitment and system of training and probation.—The foregoing remarks as to method of recruitment and system of training and probation hold good for officials in this department. We consider it very important that factory inspectors should have practical experience in mills and a general knowledge of the working of

machinery. Under the new Factory Act questions of ventilation, guarding machinery, and the health of the workpeople have to be dealt with, and it therefore appears of the utmost importance that only men with a sound knowledge of the working of factories should be eligible for the post of factory inspector. For the collection of Excise Duty, the same machinery that is employed in England for purposes of Inland Revenue collections should be introduced in India, and factory inspectors should not be called upon to do this work.

80,155. (III.) (IV.), (V.), and (VI.) Conditions of service, salary, leave, and pension.—The foregoing remarks in connection with the conditions of service, salary, leave, and pension apply here. The only other point we wish to bring forward for consideration is the advisability of making these two services Imperial instead of provincial. We are of opinion that if this could be brought about, perhaps a better class of men would be forthcoming for service in the Boiler and Factory Inspection Departments of the various Presidencies in India.

80,156. I am also directed to state that Mr. N. N. Wadia, of the Textile Manufacturing Company, Limited, Bombay, has been chosen by the committee of this association to appear before the Royal Commission for the purpose of giving evidence on behalf of the association in support of this representation.

Mr. N. N. WADIA called and examined.

80,157. (*Lord Ronaldshay.*) Witness represented the Bombay Mill Owners' Association, which consisted of the mill owners in Bombay.

80,158. It was necessary that boiler inspectors should have had experience of land boilers before joining the department, as land boilers differed, especially in length, from marine boilers. Some land boilers were as much as 32 feet long, while marine boilers were seldom longer than 14 or 15 feet. The expansion of plates in long boilers was entirely different from the expansion in short ones. The inspection of the department in the last 4 or 5 years had been very satisfactory under the chief boiler inspector, and since the staff had been increased the inspection was certainly better than it was formerly.

80,159. He understood that Mr. McIntosh was bringing forward new rules under the Boiler Act before the Bombay Council, and had made certain recommendations which, while applicable to marine boilers, could not be applied to land boilers.

80,160. Appointments in the department should be open to engineers of the Royal Indian Marine and Mercantile Marine, and to land engineers holding first-class certificates. Some of the engineers of the Royal Indian Marine and Mercantile Marine would have had experience of land boilers as apprentices in England. He would not make it a condition of appointment that officers should have had experience of land boilers, but it was most desirable that they should have.

80,161. Boiler inspectors should be paid the same salaries as engineers employed in local mills, from Rs. 500 to Rs. 700, as good men could not be attracted for less. Also better travelling allowances should be given. If the emoluments of the inspectors were increased a better class of inspectors would be obtained; but he did not wish to criticise the present men in the department.

80,162. The post of first inspector was superfluous. His duties were similar to those of the junior inspectors. He did not, however, know what office work the first inspector had to do. The recommendation that the appointment should be abolished was based on the fact that the expenditure on the Boiler Department had gone up very materially in the last four years. Up to 1909 there were only five inspectors and they had now been increased to eight, and the chief inspector's salary has been increased up to Rs. 1,500. The boiler fees up to 1909 showed a surplus of two lakhs, and that was gradually being absorbed at the rate of Rs. 20,000 a year.

80,163. The association would rather see fewer inspectors of a better class receiving larger salaries

than numerous inspectors of an indifferent class. The number of inspectors at present was excessive. The staff had increased in the proportion of five to eight during the last four years, but boilers had not increased in anything like the same proportion.

80,164. The observations made with regard to boiler inspectors applied also to factory inspectors.

80,165. The Association would like to see the Boiler and Factory Inspection Departments made Imperial and not provincial, so that a better class of man might be attracted by the chance of rising to senior posts. They also recommended that boiler and factory inspectors should not be under the control of the Collector of Bombay, as it was a technical department and should be controlled by an Imperial head.

80,166. Junior inspectors should have a chance of rising to be chief inspectors of boilers. In the new Bill before Legislative Council it was proposed that a single full-time examiner should be appointed for granting first-class certificates, but the association preferred a Board of Examiners. Some years ago a full-time examiner was appointed and bribery went on, and the Government of Bombay, in framing the Act of 1891, were induced by his father, who was then on the Council, to appoint a Board of Examiners, and that the Board had acted very well.

80,167. In Calcutta the department was under a commission which practically did the work of the chief inspector, and the association much prefer to have in Bombay a board of intelligent engineers rather than a chief inspector. If the department was made an Imperial one, every officer would be liable to serve in any part of India.

80,168. The association laid great stress on the point that factory inspectors should be men who had a knowledge of mill machinery. There was at present an inspector who was taken from the Customs and appointed a factory inspector, and who had no knowledge of mills.

80,169. The cotton Excise duties should be transferred to the Customs Department. When the Factory Act was brought before the Imperial Council the association laid great stress on the point that the chief inspector and the factory inspectors should have nothing to do with the Collector of Bombay, as it was very unwise that the action of an inspector should be controlled by a man who had no knowledge of mill machinery. The Government issued a special resolution, No. 7296A, which stated that the District Magistrate, who was inspector under sub-section 8 of section 4 of the Act, should pass no original orders under various sections of the Act within the limits of

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[Continued.]

his own district, and it was made clear in that resolution that the Collector of Bombay had no original power. There had been cases reported to the association in which some original orders had been passed.

80,170. (*Sir Theodore Morison.*) The association had no objection to the appointment of Indian factory inspectors. A large majority of the engineers in mills were Indians, and also a large majority of the owners. No discussion had taken place in the association on the subject, but he thought that as long as efficient inspection was secured, it did not matter to the association whether the inspector was an Indian or a European. He did not think there would be any deterioration of efficiency if Indian inspectors were appointed, as there were many clever Indians in the mills now who were quite capable of doing the work, and who had the advantage of knowing the workmen and language and the local conditions.

80,171. (*Mr. Abdur Rahim.*) He would exclude the Collector altogether from the Boiler Act, and have a commission of engineers.

80,172. Very few Indians received a training in mechanical work in England, probably owing to their want of means. In England there would be great difficulties in obtaining training in mills, especially in Lancashire, and mill practice was a very essential condition. There were men in the local mills in India who would very soon reach the highest ranks, as they were being trained under European overseers.

80,173. The Collector did not interfere with the details of factory inspection, but the service should be Imperial and controlled Imperially, and should not be under the Collector at all. A factory inspector might

pass an order for fencing machinery, and if the mill-owners appealed, the appeal had to be heard in Bombay by the Collector, with or without assessors, and thus the Collector practically sat in judgment on his subordinates, and might give an opinion quite independent of the assessors.

80,174. Under the Boiler Act a Commissioner had to be appointed from time to time to hear appeals.

80,175. (*Mr. Sale.*) The inspection during the last five years had been very well done, but he thought it could be done quite as well with a reduced number of inspectors.

80,176. The Commission he proposed would merely act in cases of appeal from an inspector's decision, and would have no power to give orders as, for instance, with regard to the working pressure to be allowed to a boiler. He only asked for some extension of the present system on the lines of Calcutta. A Collector now had no power to alter calculations with regard to boilers, and if anyone was dissatisfied with an inspector's decision, he either went to the chief inspector or appealed to the Commission, which consisted of expert engineers.

80,177. Only one case of the Collector issuing original orders had happened lately. There had been only one appeal case recently, and that was in connection with his own mill, and the Collector of Bombay went directly against the two assessors.

80,178. (*Mr. Chaulal.*) The passes issued by the medical officer to children working in factories was to certify that the child was a half-timer, between the years of nine and fourteen.

The witness withdrew.

J. D. F. ENGEL, Esq., Chief Inspector of Factories, Bombay.

Written Statement relating to the Factory Inspection Department.

80,179. (I.) *Methods of recruitment.*—Prior to the introduction of the amended Factory Act (XII. of 1911), inspectors were recruited in India, the exceptions being an officer who came out to India under a covenant of five years and having factory experience in the United Kingdom, and another who had been a practical weaver at home and in India, who was appointed by the Secretary of State as an additional inspector for Bombay.

The former comprised: Junior members of the Indian Civil Service, who subsequently, in Bombay Island, became controlling officers in the department, having under them men drawn from local mills and engineering works, and others having experience in mercantile firms, and one with a business training and subsequently in the Customs service.

80,180. (II.) *Systems of training and probation.*—Beyond general experience and necessary educational merit and intelligence no special qualifications have hitherto been required of factory inspectors. Any training in England previous to appointment was not considered absolutely necessary by the Indian Factory Labour Commission, but the same authority recommended that after such appointment, and when convenient, inspectors should acquire an insight into the working of factory laws for a period of three months under a factory inspector in England. The most recent appointments to Bombay and elsewhere have been of men who have undergone some experience in factory inspection at home.

Inspectors of factories in the Bombay Presidency have been required to assist the Collector of Bombay in the administration of the Cotton Duties Act, wherein an intimate knowledge of cloth and its markets is an essential qualification, for the protection of revenue.

80,181. (III.) *Conditions of service.*—Generally speaking men who join under the revised conditions, which came into force with the introduction of the new Factory Act in July 1912 (except with regard to conveyance, house allowance, and leave rules to be referred to hereafter), are not unfavourably situated. The older men in the department, to whom the efficient order of things admitted in the report of the Factory

Commission as existing in factories in the Bombay Presidency is mainly due, do not however realise equal equanimity; by the fact of their having entered Government service after they had attained the age of 30, but nevertheless having experience and practical knowledge advantageous to Government. They can but anticipate that at the end of their career, when pension has to be dealt with, the years supervening between the age and the date of their joining will under existing rules be deducted from their service. Again, in the fixing of the initial salary under the present factory scheme, consideration has not been given to past service or to the fact that if retirement obtains at the statutory age, more than one of the older inspectors will not have reached the emolument which will provide for him the maximum pension. Had the recommendations of the Factory Labour Commission, or even those subsequently recommended by the Government of Bombay (which were not too liberal), based as they were upon the previous knowledge of the qualifications of the men particularly concerned, as also of the trying condition under which they worked, been accepted by the Government of India, any such hardships referred to would have, to a material extent, been minimised.

Conveyance allowance.—Previous to the introduction of the present Act, inspectors had been allowed this as a recognised necessary allowance. Under the new scale of pay that came in with the Act referred to no provision was made for conveyance. It was held that the increase of salary obtaining in the arrangements included any out-of-pocket expenses necessitated in reaching factories situated in the places to which inspectors were respectively posted. But to make up for the extra cost of living contingent on the transfer of an officer from Ahmedabad to Bombay, the former original allowance of Rs. 30 per mensem to the Ahmedabad inspector was added to the allowance of Rs. 50 which the permanent inspector at Bombay had drawn, and the aggregate of Rs. 80 divided between the existing staff of two Bombay inspectors, leaving the inspector at Ahmedabad without any conveyance allowance, and the Bombay inspector with Rs. 10 per

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[Continued.]

mensem less than he originally drew. One of these inspectors holding a temporary post had drawn for the several years of his probation actual expenses which amounted to an average of Rs. 85 monthly, for working half the Bombay charge. So that even on the basis of the then requirements of his post, that inspector has now to find the balance, which is growing with increasing work, out of his own pocket, a hardship shared by the other inspector, who, in addition, can add a retrospective loss as a grievance, for his fixed allowance of Rs. 50 was equally incapable of covering actual necessities in this direction.

Conveyance allowance is an important consideration even in Ahmedabad. Whatever might have been the understanding of the junior inspector there regarding the legitimate claim of conveyance charges in the exercise of official duties on private resources, his colleague under the older order of things could scarcely be expected to accept the principle with equal cheerfulness.

Virtually, the earlier emoluments earned by inspectors both in Bombay and Ahmedabad, which have been suggested as the immediate advantageous effects of the scheme that came in with the new Act, and advanced as a reason why conveyance allowance should be discontinued, have been absorbed in the carrying out of their duties. This bears particularly hard in the case of one of the inspectors, whose age shuts out any ordinary possibility of his reaping any material advantage of emoluments under the existing system.

The fixing of Rs. 40 per mensem as an allowance to compensate the Bombay inspectors for the difference in living between Bombay and Ahmedabad is obviously greatly disproportionate, both in rent and other expenses of actual living. To refer particularly to rent, a comfortable place is readily obtained in the best residential quarters of Ahmedabad at a maximum of Rs. 60 per mensem, which includes stabling, while in Bombay a flat in sanitary surroundings generally range, from Rs. 150 to Rs. 250, which would not include stabling or garage.

The principle of conveyance allowance has always been recognised as essential in the Factory Department, and in similar services, viz., the Smoke Nuisance Department, and Government Medical Certifying Branch of Factories, have since the coming in of the present Factories Act been allotted sums on a far more liberal scale to meet this necessary expense. In the matter of initial salary there has been no compensating margin, which might, in the organisation of a new department, be definitely held as a reason why inspectors should find their own way about. The reason that extreme dissatisfaction exists is not therefore hard to find.

In Bombay an inspector covers at the least 200 miles during the 26 or 27 working days of the month while engaged in the work of *factory inspection* only, additional visits on Sundays and declared holidays not counted.

The checking of dutiable returns, by which the protection of revenue is ensured, invariably means many extra visits; as does also the newly-thrust-upon them duty of granting certificates for rebates on tallow, which is solely for the benefit of the millowners. The idea that even the bare contingencies of factory inspection can be met with a sum of Rs. 40 per mensem is fallacious, and especially so when due regard to climatic conditions, and the necessities involved where officers of the status of inspectors are concerned. The carrying out of the ordinary duties of inspectors means a penalty on his own industrial efforts to make the department a living reality, for he can only do it either by meeting his own travelling expenses or by accepting physical hardships which in no other parallel calling are expected of an European staff.

House allowance.—Inspectors in Bombay to be within easy call of exigencies must reside in the

town itself. Rents have for some years past become excessively high; inspectors who are therefore posted to Bombay are at a great disadvantage as compared with their colleagues in the district.

Officers of equal status to factory inspectors, and whose duties do not bind them more rigidly to maintain a house in Bombay, have been admitted to Presidency House allowance.

The Bombay Government recommended that inspectors of factories residing in Bombay should have the benefit of house rent, and the salaries recommended were fixed in consideration of this concession. The rules of this scheme do not exclude them. Had it done so the initial salaries would no doubt have been on a more liberal scale.

80,182. (IV.) *Conditions of salary.*—Reference has already been made to the generally favourable conditions obtaining to young men joining the department. In comparison with those of other Presidencies, inspectors of Bombay are not too well paid. In no other part of India are inspectors expected to work the Cotton Excise Department, which adds greatly to labour and responsibility.

It does not appear to be recognised that any lack of vigilance in classification when dealing with the returns might mean a considerable loss to revenue. Information to obviate the possibility of this has frequently to be obtained by visits to the markets, which has generally been done outside office hours.

It can be roughly estimated that these duties take up a third of the time of factory inspectors in the Bombay Presidency, while the duties of inspection are in the main considerably greater, it is believed, than those in other Indian centres, so that they are not too liberally dealt with in salary, while in the matter of the calls upon their pocket on account of conveyance allowance, referred to above, they are at a great disadvantage.

80,183. (V.) *Conditions of leave.*—As inspection of factories entails the maximum of fatigue, the greater part of a man's life being spent in hot and humid mills and otherwise demanding physical exertion at all seasons of the year, they should at once be brought under European Service Leave Rules.

80,184. (VI.) *Conditions of pension.*—With the exception of the disability in the case of the elder men of this department, alluded to under (III.), the conditions of pension seem generally favourable.

80,185. (VII.) *Such limitation as may exist in the employment of non-Europeans and the working of the existing division of services into Imperial and Provincial.*—The imperialisation of the department would undoubtedly be of advantage for efficient working. It would facilitate transfer of inspectors to other districts, and thereby ensure uniformity, especially in dealing with guarding of machinery and labour, which have more or less in common in all industrial districts of India.

As there is a tendency to recruit men having some factory experience in England, provided that non-Europeans could obtain similar training, there might be no objection to a percentage of appointments being given to them. Special regard to physical fitness, temperament, and known integrity and antecedents would be essential, as the duties of inspectors are at all times arduous and call for much tact in dealing with the various classes of mill agents and managers.

80,186. (VIII.) *Relations of the service with the Indian Civil Service.*—Advisory control by the Collector of Bombay as District Magistrate under the Act would be of material assistance, but the technical head of the department should have the option of approaching Government direct on points on which difference of opinion may arise. Happily no occasion has so far arisen for complaint on this score.

Mr. J. D. F. ENGEL called and examined.

80,187. (*Lord Ronaldshay.*) Witness was Chief Inspector of Factories, and represented the officers of

the department, whose views were embodied in the written statement which has been put in.

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[Continued.]

80,188. The department consisted of one chief inspector, four inspectors, and a whole-time certifying surgeon, who drew Rs. 800 as salary and Rs. 100 a month for conveyance. The factories were scattered all over the Presidency and the majority of them were managed by Indians, with Europeans from Lancashire in charge of the various departments.

80,189. In addition to inspection, the department had to deal with cotton Excise Duties. The mills submitted returns of goods issued every month, and the inspectors had to see that the returns had been correctly submitted according to the books prescribed by the Act. That, however, was only a flimsy check, because books might be kept for inspection, and consequently factory inspectors ordinarily inspected other books to see if there was any variation between the entries in the books kept by the mill and those kept under the Act. He was not sure that the returns were always accurately submitted. The work in connection with the Excise Duty was very responsible, because should any discrepancy arise the inspector was called upon to explain. The department would like to be relieved of this work. The men in the Customs Department were fully acquainted with similar work, and could pick up cotton excise duties more quickly than a new inspector appointed to the factory department. Having regard to the revenue derived from the excise, men might be especially appointed for that work.

80,190. The officers who had joined the department under the revised conditions were on the whole well treated in regard to salary, as compared with the older men. Two officers had recently come under the new rules, and being young men, would have the full benefit of them, and the second inspector would to a certain extent benefit also, as he was comparatively a young man. But the first inspector and the chief inspector would not benefit, as the revision had come very late in their service.

80,191. There were no Indian inspectors of factories, but he saw no reason why they should not be employed, if they had the general education and the training possessed by Europeans. A training in England was not absolutely necessary, but in the Indian mills the Indians were more or less under the supervision of Europeans, and therefore did not get the training necessary to obtain confidence in themselves.

80,192. The officers complained of the insufficiency of the conveyance allowance received in Bombay, and that acted injuriously, as a superior officer felt some difficulty in asking a man to go down to a mill a second or third time, when he knew that he had to spend money out of his own pocket for the benefit of the department. The inspectors stationed at Ahmedabad, and the chief inspector should also be provided with an adequate conveyance allowance. At present these officers were not in receipt of any such allowance.

80,193. At present the officers were under Indian service rules as to leave, but he understood the new inspectors were under European service rules. They came out under a year's agreement, and it was considered that the conditions to that agreement were still in force after the year. All inspectors should be brought under European service leave rules, considering the arduous nature of the work they had to do.

80,194. It would be an advantage if the department was made an Imperial one, as it would give the officers a larger field for promotion. It should be imperialised in the same way as the postal service. There would be no advantage in amalgamating the factory boiler and smoke-nuisance departments as the work was altogether different, and it was not wise to subordinate too many men under one head. Friction might arise by the overlapping of work of different officers.

80,195. (*Sir Murray Hammick*.) Several members of the staff had had English experience, but English experience in a large English factory was not imperative for factory inspectors. The conditions, atmospheric and other, differed very much from India. The

standard of inspection in England was not higher than in India, and it was frequently said by mill managers that orders passed by the department would never have been passed in England. If an Indian was appointed factory inspector there was no necessity to send him to England, as a period of probation in the department would be quite sufficient.

80,196. A factory inspector required some knowledge of mechanical engineering and of sanitation, and that training could be acquired in India.

80,197. An Indian inspector would not have the same influence either with Indian or European millowners, but he had no objection to seeing the experiment of appointing Indians tried. He did not think the fact that a factory inspector might not be versed in the language of the locality would be any objection to the service being made an Imperial one.

80,198. The rebates given on tallow involved additional work on factory inspectors. Tallow was an ingredient entering into the manufacture of cloth, and the contention was that, if any imported article was used in connection with cloth, the duty upon it should not be paid twice over, and consequently a rebate was given. The inspector had to perform the work in addition to his other duties, and the time occupied was generally from half to three-quarters of an hour for each mill.

80,199. He preferred a larger conveyance allowance to the actual charges being paid, and nothing under Rs. 100 was adequate for Bombay, and Rs. 75 for Ahmedabad. Some inspectors used bicycles. This method of locomotion, however, affected their health as they had to be out on duty under very trying climatic conditions.

80,200. He had no knowledge of any applications for inspectorships having been received from Indians.

80,201. If there were now only 22 per cent. of Europeans amongst managers and foremen of Indian mills, the statement made in the House of Commons that Indian expert inspectors were not required, because the bulk of factory managers and foremen were Europeans would no longer apply.

80,202. His belief that Indian inspectors would not have the same influence as European inspectors was based on conclusions he had come to, and not on any practical experience of the work of Indian inspectors.

80,203. Indian inspectors would have no greater power in detecting irregularities in connection with the Factories Act than Europeans.

80,204. (*Mr. Abdur Rahim*.) The principal duty of a factory inspector was not to prosecute for breaches of the Factory Act, but to pass orders regarding machinery and the administration of the Act. Prosecution was merely the result of continuous disobedience. There were services where Indians had control, but they could not be compared with the factory department, as a factory inspector acted on his own initiative, while many Indians in charge of departments had higher authorities to support them.

80,205. (*Sir Theodore Morison*.) The cadre was just sufficient to carry out the inspections properly, and when a man went on leave the remaining officers had to work longer hours to do his work. Evasions of the Factory Act no doubt took place, but they would take place even if the staff was doubled. The factories now were law-abiding, and carried out all orders quite loyally. Very few factories escaped inspection, but several did in 1913 owing to the department being short-handed.

80,206. At present an officer had to pass in Hindustani, and Hindustani was very well understood in Bombay, but he thought the rule might be amended and an officer be called upon to pass in the language of the district to which he was appointed.

80,207. (*Mr. Sale*.) He had studied Indian spinning before going to England to perfect himself, and then he came out to India as the manager of a mill.

80,208-443. For cotton excise work it would be an advantage to have a department working all over India, so that the classification might be the same for the whole country.

The witness withdrew.

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APPENDIX I.

NARRATIVE prepared by the GOVERNMENT of the UNITED PROVINCES of AGRA and OUDH as to
(1) APPOINTMENT of INSPECTOR of FACTORIES.

In 1891, when the Indian Factories Act, 1881, was amended by Act XI. of 1891, the question of the establishment necessary for the working of the Act was taken up. The Governor-General in Council insisted on the importance of securing a strict observance of the law regarding factories, and considered that it would be advantageous to appoint a special inspector for Bengal who might also be made available for the more important centres in the United Provinces of Agra and Oudh. The pay of the inspector would be charged to the provincial revenues of Bengal. It was also considered preferable, instead of recruiting from the United Kingdom, to appoint to this post a qualified person with some knowledge of the habits and language of the native population if the services of such a person could be procured in India. The Government of Bengal agreed to this proposal. That Government also found it possible to procure locally a person with the required qualifications. A salary of Rs. 700 per mensem was recommended for the post, but the officer holding

the appointment was not to have any pensionary rights. This was sanctioned by the Secretary of State, and, with the approval of the Government of India, the person selected for the post was at the same time gazetted under section 3 of the Indian Factories Act, 1881, as an inspector of factories within the limits of this province from the 23rd May 1892. The appointment was subsequently (in 1897) made permanent and pensionable.

In 1905 the attention of the Government of India was engaged in considering the question of making better arrangements for the inspection of factories and boilers in India. The work of the Inspector of Factories, Bengal, who, as pointed out above, was required to inspect the factories in the United Provinces, had become so heavy owing to the increase in the number of factories that some relief had become imperative. The boiler inspection work was undertaken by an entirely separate establishment, but the Government of India did not see why the work of inspecting factories

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could not be entrusted to the boiler inspectors. This Government disagreed. It was pointed out that the duties of the boiler inspector were confined to the machinery in the factories, and they usually had to deal only with engineers in charge of the engines and boilers. They required certain technical qualifications, but were generally men of the mechanic class and with their training and bringing up it was doubtful whether they possessed the necessary tact for such work as fell to the factory inspector, whose duties were of a much more inquisitorial nature.

It was, however, recognised that the Inspector of Factories, Bengal, needed assistance. The appointment of a whole-time inspector for this province was recommended. It was also suggested that if a person with the necessary qualifications was forthcoming the best arrangement could be that the boiler inspectors should be the assistants of the factory inspector. The Government of India were not satisfied that the amalgamation of the factory and boiler inspection establishments would not be advantageous. It was therefore suggested that one of the boiler inspectors employed in the United Provinces should be replaced by a chief inspector of factories and boilers on somewhat higher pay, and that the two remaining boiler inspectors should be empowered to inspect factories as well as boilers. This Government held that the boiler inspectors' time was already fully occupied by the inspection of boilers and prime movers alone. It was accordingly recommended that no reduction be made in the existing staff and that a chief inspector on a salary of Rs. 500-50-700 be appointed, whose duties, besides inspecting factories, would be to supervise the working of both the Factory and Boiler Acts; the work of the boiler inspectors should, however, be confined to boiler inspection only. It was stated that the inspector of factories should be an officer possessing special qualifications for the responsible and delicate duties devolving on an inspector of factories, and should, besides, have a thorough theoretical and practical knowledge of machinery and engines to enable him to dispose of references and disputes which might be submitted to him for orders by the boiler inspectors. It was thought that such an officer could be obtained from the superior revenue establishment of State railways, locomotive branch. The proposal was forwarded by the Government of India to the Secretary of State, a modification being suggested in the pay proposed for the new appointment. The Secretary of State, however, decided that the question of the appointment should stand over until the report of the Factory Commission had been considered.

The report showed that serious abuses prevailed. The Government of India accordingly directed that, until the number of officers required to secure compliance with the law could be finally determined, steps should be taken at once to strengthen the inspecting staff temporarily, either by appointing temporary inspectors or by placing officers on special duty for the purpose. This was in 1908.

An inspector of factories was accordingly appointed in this province on the 1st January 1909 as a temporary measure for a period of six months on a salary of Rs. 500 a month.

The Factory Commission recommended a full-time inspector for these provinces on a salary of Rs. 400-30-1,000, and suggested that the appointment should rest with the local government. When this Government was asked for its views on the Commissions proposals,

it was said that the Lieutenant-Governor agreed with the recommendations contained in paragraph III of the report of the Commission as to qualifications required in a full-time inspector and the pay which should be granted to him. His Honour, however, adhering to the arguments expressed to the Government of India in the letter of the 6th July 1906, considered that the qualifications should ordinarily be sufficient to justify a higher initial rate of salary than Rs. 400 a month.

In submitting proposals to the Government of India for making the appointment permanent it was recommended that the post should, for the reasons given above, carry a pay of Rs. 500-31½-1,000, or Rs. 500-33½-1,000. It was also suggested that the inspector should control the boiler inspectors in the province. The Government of India, however, in forwarding the proposal to the Secretary of State, stated that the standard pay recommended by the Factory Commission was more suitable, and that the temporary inspector should be made permanent and brought on to the new scale at the stage of Rs. 550. This was sanctioned by the Secretary of State.

The appointment comes under the ordinary Indian service leave and pension rules of the Civil Service Regulations. On the 1st August 1910, the two establishments of inspector of factories and inspector of boilers were amalgamated, and the inspector of factories was placed in charge of the entire staff with the designation of "Inspector of Factories and Boilers."

(2) The BOILER INSPECTION STAFF.

With a view to the extension of the North-Western Provinces and Oudh Steam Boilers and Prime Movers Act, 1899, to the important commercial town of Cawnpore, in which there is a large number of steam boilers at work in mills and factories, and subsequently to Agra, Lucknow, and other towns, the sanction of the Secretary of State was obtained in 1901 to the appointment of a boiler inspector in this province on a salary of Rs. 350-10-400, the appointment being permanent and pensionable. When inspections began to be made outside Cawnpore the need for assistants was seen. In 1903 an assistant inspector on Rs. 250 was sanctioned. A second assistant inspector was sanctioned in 1905 at the same rate of pay. In 1910 the boiler inspection department and the factory inspection department were amalgamated. It was then found that the whole work could be done by the two assistant inspectors, most of the work of the inspector falling to the inspector of factories. The post of inspector of boilers was, with the sanction of the Government of India, accordingly abolished. The abolition of this appointment created a new situation, for prior to that time the assistant boiler inspectors reasonably hoped for eventual promotion to the post of boiler inspector. In order, therefore, to give some chance of regular promotion the Local Government in 1911 obtained the sanction of the Government of India to raise the pay of the senior assistant inspector from Rs. 250 to Rs. 300-20-400 a month. In 1912, in view of the equality in age of the two assistant inspectors, the pay of the junior assistant inspector was raised to Rs. 250-20-350 a month. Both appointments are permanent and pensionable and fall under the ordinary Indian service leave and pension rules of the Civil Service Regulations. Recruitment has up to the present been made in India. The pay of the department is met from the fees charged for the inspection of steam boilers and prime movers.

APPENDIX II.

MEMORANDUM prepared by the GOVERNMENT of the UNITED PROVINCES of AGRA and OUDH relating to FACTORY and BOILER INSPECTORS.

Recruitment.—Candidates should be required to hold a first-class engineer's certificate granted by the Marine Board of Trade. The age limit should be fixed at 30 years, but Government should have the power to make exceptions.

Salaries.—In view of the rates of pay granted in other provinces His Honour considers that the pay of boiler inspectors should be fixed as follows:—

Rupees 300-10-400-20-500. The first increment to accrue in the 31st year of age.

APPENDIX II. (*continued*).

Leave.—No change is recommended in the leave rules.

Pensions.—It is recommended that Government should have the power to exempt the boiler inspectors who enter service of Government after the age of 30 years from the operation of Article 478 (a) of the Civil Service Regulations.

Touring in the Hills.—Boiler inspectors should receive the daily allowance and mileage drawn by upper subordinates of the Public Works Department in charge of hill districts, that is to say, Rs. 4 daily allowance, and annas eight a mile for journey by road.

APPENDIX III.

MEMORANDUM prepared by the SANITARY ENGINEER to GOVERNMENT, PUNJAB, relating to the FACTORY and BOILER INSPECTION DEPARTMENT.

1. The present regulations as to recruitment, training, and probation, and whether these regulations are satisfactory.—There are no regulations in force in the Punjab at present, with regard to the recruitment, training, and probation of the officers of these departments. It cannot, therefore, be said the regulations are satisfactory. The present boiler and factory inspector was appointed in September 1906. He was recruited from the boiler inspectors of Bombay Presidency. He holds a first-class Board of Trade certificate. This certificate is granted after examination, and the holder of it must necessarily possess a thorough knowledge, both theoretical and practical, of engines, boilers, and machinery. The Boiler and Prime Mover Act of the Punjab is being gradually applied to different areas in the province. The areas in which it is now in force contain 472 boilers and in the areas to which it has yet to be applied there are estimated to be some 1,200 to 1,500 boilers. The number of boilers now to be inspected (472) is, without taking into account his duties as factory inspector, more than one man can efficiently do. Nor is there any satisfactory means of replacing him should he fall sick or require rest to recruit his health. The Punjab Government is recruiting through the Secretary of State for India a factory inspector, who is at present undergoing a training in boiler inspection. It was the intention of Government that this officer, who will be on better pay, should replace the present incumbent and carry out the boiler inspections in addition to his duties of factory inspector which are not to be confined to the Punjab alone, but are to include the provinces of Delhi, Ajmer, and North-West Frontier. I have already stated the number of boilers now to be inspected is more than one man can efficiently do. It is, in my opinion, quite impossible for the joint factory inspector of four provinces to carry out the duties of boiler inspector for the Punjab and Delhi in addition. Nor, in my opinion, is it desirable, as the class of officer necessary for factory inspector is very different from that required for boiler inspections. It is, however, in my opinion, most desirable that the factory inspector should have a thorough practical knowledge of boiler inspection work, so that in the case of dispute between the owner and a boiler inspector as to the necessity of repairs or reduction of the steam pressure in a boiler the owner could appeal to him and he by a personal inspection could decide the case without delay. The present system of appeal is so cumbersome and slow

that it is very seldom resorted to. This is much more important than at first sight appears, but the reasons for its importance I should rather give privately than officially.

2. The rates of pay and allowance in force in 1890 and 1900 and at the present time, and whether the present rates of pay and allowances are satisfactory.—There was no factory and boiler inspector in this province in the years 1890 and 1900. The rate of pay of the present incumbent is Rs. 350-10-400, with no allowance beyond second class travelling allowances. Considering the responsibility of the post of boiler inspector, and the fact that when the Act is extended to the whole province, he will have two or more assistant boiler inspectors under him, I do not consider the present rate of pay sufficient, and suggest it should be raised to Rs. 350-10-500 with the travelling allowance of an assistant engineer in the Public Works Department. The pay of the factory inspector, who is about to be appointed, has been fixed at 400-30-1,000. This, in my opinion, is sufficient for the present to attract a suitable officer. Whether it will be sufficient for his successor depends on the development of factories in the four provinces under his inspection.

3. The number of posts in each grade, and the provision, if any made in the cadre for leave and training.—There is at present one post of boiler inspector in this province. The incumbent of this post is also a factory inspector, as specially notified by the local government. There is consequently no provision in the cadre for leave and training.

4. What appointments outside the authorised cadre are held temporarily, or otherwise, by officers of the various services.—No appointments outside the authorised cadre are held.

5. Whether any addition is required to the present cadre.—As I have already proposed, there should be a separate whole-time factory inspector in addition to the present boiler inspector, who could then be relieved of his present factory inspection. The time has now come when the first of the assistant boiler inspectors should be appointed. Additional assistant boiler inspectors can be appointed as required owing to extensions of the area in which the Act is in force. The pay of these assistants should, in my opinion, be Rs. 250-10-350 with second class travelling allowance.

APPENDIX IV.

MEMORANDUM prepared by the GOVERNMENT OF BENGAL relating to on the BENGAL FACTORY INSPECTION DEPARTMENT.

Previous History of Department.

(1) Up to 1891, when the Indian Factories Act, 1881, was amended, district magistrates were *ex-officio* inspectors for the factories lying within their jurisdiction; while the duty of certifying the age of children was performed generally by medical officers in the service of Government. When the Act of 1881 was amended, the appointment of specially qualified whole-time inspectors was felt to be a necessity, and in February 1892, the Secretary of State sanctioned the

appointment of a whole-time factory inspector for five years on a salary of Rs. 700 a month. His jurisdiction extended beyond Bengal, and included the North-Western Provinces and Oudh. At the same time, civil surgeons and certain other medical officers were appointed inspectors as well as certifying surgeons for the factories in the various parts of the province.

(2) In 1897 the post of inspector was, with the Secretary of State's sanction, made permanent and pensionable. In 1907 the pay was raised from Rs. 700

APPENDIX IV. (continued).

to Rs. 800-50-950 per mensem, irrespective of the allowance of Rs. 250 a month which had been drawn since 1900 for services as vice-president and secretary of the Boiler Commission.

(3) In 1907 the Report of the Textile Factories Labour Committee revealed the existence of abuses owing to insufficient inspection and lax procedure. The Government of India addressed the Secretary of State on the subject of relieving the special inspector of factories in Bengal of inspection work in the United Provinces (as it had then become) and of appointing a separate inspector for those provinces. But as it was apparent that even then the work remaining in Bengal and Eastern Bengal and Assam would still be too heavy for the special inspector to perform efficiently, an assistant inspector was appointed temporarily for six months in February 1908, and the appointment was continued on a temporary basis till it was made permanent in July 1912. The separate inspector for the United Provinces was appointed in January 1909.

(4) As a result of the findings of the Indian Factory Labour Commission (1907-8) this Government in April 1909 proposed the creation of a permanent inspectorship in addition to the chief inspector. An application was made for the appointment of a third inspector in June 1911. Both additional posts were sanctioned in the Secretary of State's Despatch No. 37, dated the 26th April 1912. Similarly, for the work of certifying children, the appointment of a whole-time certifying surgeon had been sanctioned by the Government of India in July 1909 for one year. The salary allowed was Rs. 600 per mensem, and an officer of the military assistant surgeon class was selected for the post. His jurisdiction extended to the factories situated in the Barrackpore subdivision of the 24-Parganas district (with the exception of thana Dum-Dum). The period of the appointment has been extended annually, and the post has been ever since retained, an increase of Rs. 40 per mensem being granted each year. The area of the certifying surgeon's jurisdiction has also been extended by the addition of some important mills on the opposite bank of the Hooghly. A recommendation has recently been made to the Government of India that the appointment should now be made permanent.

(5) The existing staff, therefore, now consists of—

- One chief inspector.
- Two inspectors.
- One certifying surgeon.

The jurisdiction of the three inspectors extends over the Presidency of Bengal, the Province of Bihar and Orissa, and the Administration of Assam. District magistrates are also Inspectors *ex-officio*, and section 4 (4) of the Indian Factories Act, XII. of 1911, empowers Local Governments to appoint additional inspectors. The latter receive no payment for their duties under the Act. The intention is that local officers should be given the powers of an inspector only in outlying areas which the full-time inspectors cannot regularly reach, and that the district magistrate should ordinarily confine himself to seeing that the orders passed by the full-time inspector are duly observed. On the new Act coming into force, civil surgeons ceased to be *ex-officio* inspectors, but they, with other medical officers, have been reappointed as certifying surgeons in all areas outside the jurisdiction of the whole-time certifying surgeon. The rate of remuneration for the duties thus performed has not yet been finally decided.

Conditions as to Recruitment, Training, and Probation.

(6) The qualifications requisite for factory inspectors have been held by this Government to be (i) a good theoretical training in engineering, (ii) a thorough practical training in mechanical engineering, and (iii) some knowledge of sanitary science.

(7) The Senior or Chief Inspector, Mr. Walsh, was appointed in 1892. He was then acting as a district loco superintendent on the Eastern Bengal State

Railway, and had previously served on the Oudh and Rohikhand Railway. He had also been employed on the Metropolitan and South Eastern Railways in England and the Manchester Ship Canal.

Mr. Walsh is at present on leave preparatory to retirement, and Mr. R. P. Adams, until recently Superintendent of Jail Manufactures, is acting for him. Before his appointment to the latter post Mr. Adams was an officer of the Factory Department. He possesses an extra first-class Board of Trade certificate, and after a thorough theoretical and practical training in England was employed for seven years with various steamship and engineering firms.

The second inspector possesses an extra first-class Board of Trade certificate, and had considerable theoretical and practical training at home and abroad. At the time of his appointment he was working with the British India Steam Navigation Company as a marine engineer.

The third inspector holds a first-class Board of Trade certificate. He had engineering experience with various steamship lines, and was then appointed as superintendent and engineer of the Opium Department Sawmills at Patna, from which post he was transferred to the Factory Department.

(8) No probation or special departmental training is undergone by inspectors.

(9) The certifying surgeon must be a medical man, and it is also deemed essential that he should be a European of active and energetic habits, with some experience of the country and a knowledge of the vernaculars. The present incumbent is a European belonging to the Military Assistant Surgeon Service.

Conditions of Service in regard to Salary, Leave, and Pension.

(10) The salary of the chief inspector has been fixed at Rs. 800-50-1,000, and that of the two assistant inspectors at Rs. 400-30-700. The chief inspector was admitted in 1907 (as a personal concession) to the benefits of the European service leave rules in Chapter XIII. of the Civil Service Regulations. In the absence of orders to the contrary, the two assistant inspectors must be held to come under the Indian service leave rules.

(11) As regards pension, the rules in the Civil Service Regulations relating to ordinary pensions apply in the case of all the inspectors.

(12) The present pay of the certifying surgeon is Rs. 680 per mensem, having risen by annual increments from the initial rate of Rs. 600. In proposing to make the post permanent, this Government has recommended a pay of Rs. 600-40-800.

The present incumbent, Lieutenant Gillmon, as a military officer in civil employ, is subject to the ordinary Indian service leave rules in the Civil Service Regulations. As regards pension, he is subject to the rules applicable to military assistant surgeons.

The post of vice-president and secretary to the Boiler Commission, which carries with it an allowance of Rs. 250 a month, is, under the orders of the Government of India, held by a member of the factory inspection staff.

Employment of Non-Europeans, &c.

(13) The question of the employments of Indians in the Factory Department was referred to this Government by the Government of India at the instance of the Secretary of State in 1912. The Secretary of State had suggested that posts of probationary factory inspectors might be created so as to admit of the training of Indians for the work of inspectors. In replying, this Government pointed out that the appointment of Indians as inspectors would almost inevitably lead to friction with the European staff of the mills, and that under present conditions they did not propose to train Indians for employment as inspectors.

APPENDIX V.

STATEMENT prepared by the GOVERNMENT OF BENGAL, relating to the FACTORY INSPECTION DEPARTMENT.

(1) The present regulations as to recruitment, training, and probation, and whether these regulations are satisfactory.—The facts relative to the Factory Department are set forth in the memorandum submitted to the Commission with Mr. Cumming's letter No. 1488 A—D, dated the 15th July 1913.

The existing regulations are satisfactory.

(2) The rates of pay and allowances in force in 1890 and 1900 and at the present time, and whether the present rates of pay and allowances are satisfactory.

	Rs.
1890—No officer.	
1900—Chief inspector - - -	700
1913 { Chief inspector - - -	800-50-1,000
Assistant inspectors - - -	400-30-700

The duties of these officers are no less onerous than those performed by similar officers in Bombay. Five inspectors are engaged in Bombay in inspecting factories employing 237,344 operatives. The three Bengal officers inspect factories employing 346,700 operatives. These officers are all stationed in Calcutta, where living is expensive. A claim to equal treatment with Bombay is reasonable.

The pay should be raised to the rates prevailing in Bombay, viz. :—

	Rs.
Chief inspector - - -	1,000-50-1,250
Assistant inspectors - - -	400-30-900

Conveyance allowances should be allowed on a similar scale to assistant inspectors at Rs. 40 per mensem.

(3) The number of posts in each grade and the provision, if any, made in the cadre for leave and training :—

- 1 Chief inspector.
- 2 Assistant inspectors.

No provision exists for leave and training.

(4) What appointments outside the authorised cadre are held temporarily, or otherwise, by the officers of the various services?—None.

(5) Whether any addition is required to the present cadre.—Two additional inspectors are required. As has been stated above, the number of operatives in factories in Bengal is 346,700. These are employed in 364 factories, and the majority (211,200) are employed in 64 jute mills. The provisions of the new Factories Act necessitate an extremely complicated system of shifts, especially for women and children, and these complicated shifts add largely to the duties of inspectors, who have to satisfy themselves that the various classes of labour are working in accordance with the requirements of the Act. The number of inspectors required cannot be determined solely by the number of factories. Regard must be had to the kind of factories, the conditions of work and the number of persons employed. The daily average of children employed in the mills in Bengal is 320 as against 80 only in Bombay. Proper inspection cannot be obtained with three inspectors, and the staff must be strengthened in order to ensure that the provisions of the Act are enforced.

APPENDIX VI.

MEMORANDUM giving the CORPORATE OPINION of the FACTORY INSPECTION STAFF of BENGAL, BIHAR and ORISSA, and ASSAM.

(I.) Methods of recruitment.—We consider that it is desirable to select men of about 27 to 30 years of age, who, in addition to a liberal general education, have had a good theoretical and practical training in mechanical engineering, and after completing their apprenticeship have held responsible positions relating to their profession. We are also of opinion that, if possible, the appointments should be made in India by Local Governments; but if suitable candidates are not available in India, the Secretary of State be asked to make the selections at home. In either case it is essential that the men selected in India or in England should have received their professional training in the United Kingdom; and, considering the nature of the duties to be performed, that care should be exercised to secure men of tact, intelligence, and force of character. We would emphasise the necessity of restricting the field of recruitment to mechanical engineers who have had a sound practical experience.

One of the most important duties of a factory inspector is the investigation and prevention of accidents caused by machinery, and it is obvious that he must be qualified to correctly advise in a practical way the means that should be adopted to minimise the possibility of accidents. It necessarily follows that to do this he must have a thorough knowledge of all mechanical appliances, and his instructions must at all times be feasible and reasonable in order to efficiently carry out his duties and retain the respect of factory managers, the majority of whom are engineers or have the advice of trained engineers at their service.

(II.) Systems of training and probation.—We would recommend that factory inspectors should on appointment be on probation for one year in the province in which they are to be posted. Taking into consideration the fact that the men appointed are

presumably fully qualified, no special training appears to be necessary. During the year of probation, however, they should not be deputed to make independent inspections until they have been initiated by a senior inspector in the special conditions prevailing in the province.

In the case of men appointed in England, the first six months might be spent on probation in the United Kingdom with a view to acquiring experience in factory inspection work at home, and affording the Secretary of State an opportunity of ascertaining whether the candidate is suitable. In such cases probably a further probation of six months only in India would be sufficient, and the time spent in travelling to India might be included in the year of probation.

(III.) Conditions of service.—All three inspectors at present on the Bengal staff have received their education and training in the United Kingdom, and were appointed in India. The jurisdiction of each of these inspectors extends over Bengal, Bihar and Orissa, and Assam; but in view of the fact that out of 364 factories in these provinces, 235, including all the large textile factories, are situated in and around Calcutta within a radius of 25 miles, Calcutta has been fixed as the headquarters of all three inspectors. There are no rules regulating the conditions of service in this department, excepting those contained in Government of India despatch dated the 15th February 1912 to the Secretary of State.

(IV.) Conditions of salary.—In the reconstituted provinces of Bengal, Bihar and Orissa, and Assam the staff consists of one chief inspector on Rs. 800-50-1,000 and two inspectors on Rs. 400-30-700. Mr. Walsh, the chief inspector, now on leave and on the verge of retirement, also received an allowance of Rs. 250 for acting as vice-president and secretary to

APPENDIX VI. (*continued*).

the Boiler Commission, but it has now been arranged that the additional work in that department will be done by one of the other inspectors, who will draw the allowance. This arrangement is convenient, as it was difficult for the chief inspector to control the office work of the two departments.

In the Bombay Presidency the staff consists of a chief inspector on a salary of Rs. 1,000-50-1,250 and four inspectors on Rs. 400-30-900. Two of the latter are stationed in Bombay City, and receive a conveyance allowance of Rs. 40 each. From this comparison it is obvious that the Bombay staff is being more liberally treated than the Bengal staff, and there appears to be no reason why this should be so, considering that three men in Bengal are responsible for the inspection of 364 factories employing 346,710 operatives, against five men in the Bombay Presidency responsible for the inspection of 603 factories employing only 237,344 operatives. Moreover the three inspectors in Bengal are living in Calcutta, whereas two of the inspectors of the Bombay Presidency have their headquarters at a Mufassal station, where living is much cheaper than at Calcutta or Bombay. We, therefore, suggest that the pay of the two grades in this province be increased and fixed at Rs. 500-40-900 and Rs. 950-50-1,250, the increments to be annual in both grades.

We have proposed a higher initial pay than that fixed by Government, because we have already suggested that the age of recruitment should be from 27 to 30 years, and it would be unreasonable to expect men of this age with the qualifications specified to be attracted by the lower rate of pay at present offered. We have increased the maximum of the lower grade to Rs. 900 (the maximum in the Bombay Presidency), because it is possible that some of the inspectors would have to remain in this grade for many years or perhaps throughout their service, and it would be specially hard for a married man to have to live continuously in Calcutta on a lower rate of pay, and at the same time to keep up the position of a gazetted officer. As Government has recognised that the inspectors should be able to maintain a position that will command the respect of managers of factories, and as their salary and prospects will materially affect their position, we would strongly urge that the inspectors of this province be put on at least an equal footing with the inspectors of the Bombay Presidency.

Moreover, the present maximum grade for inspectors in Bengal debars them, if not promoted before retirement to the post of chief inspector, from enjoying a privilege which all the other inspectors in India will enjoy, viz., the full pension of Rs. 5,000 a year after completion of full service. This in itself is a hardship, as the Bengal men have equal qualifications and are doing the same work under more trying conditions than most of the inspectors in other provinces.

Further we would respectfully point out that it has been recognised by Government that officers serving in Calcutta are due some compensation for the exorbitant rents demanded, and it was for this purpose that the Calcutta House Allowance Scheme was sanctioned. The Factory Department is not at present included amongst the departments receiving this allowance, and is one of the few departments which have been excluded. It is ordinarily considered that a Government officer should pay 10 per cent. of his salary as house rent, and this is the rate at which rent is charged for occupation of Government buildings in the Mufassal. In Calcutta, however, it is impossible to obtain even the smallest of flats at a lower rental than Rs. 200 a month, which is obviously far in excess of 10 per cent. of the maximum pay of the inspectors. We therefore beg that this department should be brought into line with other departments in this respect.

(V.) **Conditions of leave.**—As all the men appointed to the service in this province have been born, educated, and trained in the United Kingdom, we would urge that we be allowed to come under the European leave rules.

Mr. Walsh, the chief inspector, now on leave and on the verge of retirement, has had the privilege of

coming under the European leave rules; but as the remaining inspectors have not yet had occasion to avail themselves of furlough, sick leave, &c., the question as to what leave rules apply to this department has not yet arisen. We would draw special attention to the fact that a man 30 years of age when appointed to the department would have to wait until he was 40 years of age before he could avail himself of long leave under the Indian leave rules. It should also be taken into consideration that all the inspectors have their homes in England, and that their entire active service is spent in the plains of Bengal, and that their duties entail daily travelling at irregular hours throughout the hottest months and the rainy season.

It is generally recognised that it is imperative that an officer should at least be able to go home every three or four years; and in the large mercantile houses in Calcutta it is almost generally insisted on that European employees should go home after such intervals, it being recognised that better work can be obtained from thoroughly healthy men, than from those suffering from the inevitable inertia and nerves caused by the Indian climate. It is obviously to the advantage of both Government and their officials that the leave rules should be as generous as possible. We, therefore, hope that a department wholly recruited from the United Kingdom will not be debarred from the privileges of the more generous European service leave rules.

We would also raise the question of study leave. It was suggested by the Factory Labour Commission that men appointed to the department, or already in the department, should be afforded an opportunity of studying the methods of factory inspection in vogue in the United Kingdom, and we would urge the advantage to Government of giving inspectors facilities for visiting factories in England and acquainting themselves with up-to-date methods.

(VI.) **Conditions of pension.**—Taking into consideration the age at which it is proposed men should be appointed and the conditions of service, entailing duty throughout the year in the plains, we feel justified in urging that the period of compulsory service should be reduced to 25 years, and the period of qualification for full pension on medical certificate to 20 years. In some departments it has already been recognised that these periods indicate the limit to which it can be expected that officers can give continuous work of the highest standard; and it is the universal prayer of the remaining services to be included within this limit, as they realise that, after these periods of service, they will be merely filling in the years to qualify for pension under the existing rules, although quite prepared to give way to younger men if permitted to do so.

(VII.) **Such limitations as may exist in the employment of non-Europeans.**—At present there are no limitations in the employment of non-Europeans, but in Bengal, where 300 (including all the more important factories) out of a total of 564 factories are entirely under the control of Europeans, we do not think it would be judicious to employ non-Europeans as inspectors. The employment of non-European inspectors might, however, be feasible in those provinces in which a large number of factories are owned and controlled by non-Europeans.

(VIII.) **Relations of the service with the Indian Civil service and other services.**—The Factory Department is immediately subordinate to the Secretary to Government in the general department, and inspectors, when on tour, to the magistrate of the district in which they may be touring. We consider this satisfactory. We are also of opinion that the recruitment of the chief inspector of factories from the factory department staff cannot reasonably be questioned.

(IX.) **Any other points not covered by the preceding heads.**—Motor cars are now used by all the inspectors for most of the inspection work in and around Calcutta. It has been recognised that the work cannot be efficiently done by the present staff

APPENDIX VI. (continued).

without cars, and Government has in each case advanced a fair proportion of the purchase price. The continual use of these cars for Government work has shown that the ordinary travelling allowance is not sufficient to cover the cost of running expenses, depreciation, &c., and the factory inspectors have applied to Government for an allowance in addition to the

ordinary travelling allowances. In the application it has been clearly shown that it is not only essential to have cars for the efficient carrying out of the inspection work, but that the use of cars by inspectors effects a real saving to Government. This matter is at present under consideration, and has not yet been finally settled.

APPENDIX VII.

STATEMENT prepared by the GOVERNMENT OF BENGAL regarding the BOILER INSPECTION DEPARTMENT.

1. The present regulations as to recruitment, training and probation, and whether these regulations are satisfactory.—There are no specific regulations for recruitment, training and probation. Inspectors are recruited principally from the mercantile marine and are required to possess a first-class Board of Trade certificate. It is found that engineers with the foregoing qualification have the requisite training for boiler inspection work on land, and after six months' probation they are found to be well qualified for the work of the Commission. This is explained by the fact that the training, both practical and theoretical, necessary to secure a first-class Board of Trade certificate of competency is of a very thorough nature and requires the candidate to be well versed in all branches of mechanical engineering.

This system of recruitment of boiler inspectors has been found satisfactory.

2. Rates of pay and allowances in force in 1890 and 1900 and at the present time, and whether the present rates of pay and allowances are satisfactory.—The rates of pay are at present and have been since 1890 up to the present time:—

	Rs.
Two inspectors, 1st grade	- 400-10-450
Four " 2nd "	- 350-10-400

The Boiler Commission has represented that these rates of pay are insufficient and this representation is now under the consideration of the Government of Bengal.

3. The number of posts in each grade, and the provisions, if any, made in the cadre for leave and training.—There are, at present, four posts in the lower grade of Rs. 350-10-400 and two in the higher grade of Rs. 400-10-450. No provision has been made for leave and training.

4. What appointments, outside the authorised cadre, are held temporarily, or otherwise by the officers of the various services.—None. The appointment of the vice-president and secretary to the Boiler Commission, who supervises the work of the boiler inspectors, is held by an inspector of factories.

5. Whether any addition is required to the present cadre.—Yes. One more inspector is necessary to allow of inspectors to take leave in rotation and to enable them to carry out the extra work thrown on the inspectors by the addition of several districts to the list of those districts under the jurisdiction of the Commission. The question of appointing one is under consideration.

APPENDIX VIII.

MEMORANDUM of the SERVICE of BOILER INSPECTORS in BENGAL, being the CORPORATE OPINION of the BOILER INSPECTORS in BENGAL.

(I.) Method of recruitment.—The Commissioners generally appoint men who are in possession of first-class Board of Trade certificate and have acquired some practical experience about inspecting and repairing boilers while in the service of the mercantile marine. Candidates must possess both mechanical and mathematical training so as to be able to calculate strains and stresses of the various parts of a boiler.

(II.) System of training and probation.—The training which is attained while in the marine service and what is acquired in some well known workshop where practical training is given for five years before one is considered eligible for marine service.

(III.) Condition of service.—No special condition is imposed or guaranteed at the time of employment except that the candidates should be regular and punctual in their work and qualified to inspect boilers and suggest repairs necessary according to rules and regulations laid down for their guidance.

(IV.) Condition of salary.—Appointed on Rs. 350-10-400, and promoted in the event of vacancy to the higher grade of Rs. 400-10-450. There are two appointments of boiler inspectors on Rs. 400-10-450 and four on Rs. 350-10-400 per month. Each inspector draws conveyance allowance of Rs. 50 per month when doing duty in and around Calcutta or Rs. 100 per month as deputation allowance when on duty in the Mufassal stations and colliery districts. Considering the arduous nature of the work and the

great responsibility attached to a conscientious discharge of the duties coupled with the fact of the present cost of living being very high the salary is decidedly inadequate, which is amply proved by the fact that the inspectors are unable to avail themselves of any leave, not to say anything of their being unable to put by anything for future contingencies. It is, therefore, proposed that the salary of the inspectors may be modified as follows:—

	Rs.
First grade	- 350-30-500
Second grade	- 500-30-650

(V.) Condition of leave.—The same as prescribed in the Civil Service Regulations under Indian rules. From the nature of the work they have to perform the inspectors get none of the gazetted holidays and not unfrequently they have even to inspect on Sundays. It would, therefore, be fair if special orders were passed granting the boiler inspectors two months' privilege leave in a year instead of one month as at present, and allowed to accumulate for three years.

(VI.) Condition of pension.—The same as prescribed in the Civil Service Rules.

(VII.) Such limitation as may exist in the employment of non-Europeans and the working of the existing system of division of services into Imperial and Provincial.—No limitations exist. The candidate must be qualified for the service.

APPENDIX IX.

EXPLANATORY MEMORANDUM of the BOILER INSPECTION SERVICE, being the OFFICIAL OPINION of BOILER COMMISSIONERS.

In 1864 a boiler attached to the ice factory of the Great Eastern Hotel exploded, resulting in the loss of several lives. This accident led to an inquiry which ended in the passing of Act VI of 1864 relating to the inspection of steam boilers and prime movers in Bengal. In about 1874 the secretary of the boiler office, while passing the Strand Road noticed some boilers working in the hydraulic engine house of the Port Commissioners without having the certificates required by the Act. He represented the matter to the then vice-chairman of the Port Commissioners, who reported the Secretary to the Commissioner of Police for undue interference with the Port Commissioners' work, resulting in the secretary being called upon to appear before the chief engineer of the Government Dockyard, who after inquiring of his qualifications reported on him favourably, but remarked that he should be under the control of a Commission. This incident led to the appointment and formation of the Bengal Boiler Commission on or about the year 1874. This Act was subsequently amended in 1875, and both these Acts were repealed by Act III. (B.C.) of 1879, which is still in force.

The Boiler Commission as now constituted consists of:—

Commissioner of Police, Calcutta	-	-	President.
Chief Inspector of Factories	-	-	Vice-President and Secretary.
Inspector of Factories	-	1	}
First Engineer and S.S.	-	1	
Chamber's nominees	-	3	

When the work of inspection of boilers was first started, it was limited to a radius of five miles from Calcutta which was afterwards extended to 30 miles.

The number of boilers under inspection:—

In Calcutta and environs	-	-	1,717
In Mufassal	-	-	2,416
Total	-	-	4,133

When the Act was passed the inspection work was carried on by one inspector. As the operation of the Act was extended and the work increased further appointments were made until at the present time we

have six inspectors who have to inspect 4,133 steam boilers each year. The recent extensions to some scattered districts of East Bengal has entailed a considerable amount of extra work out of all proportion to the number of boilers inspected, and the Commissioners consider that another inspector must be appointed in the near future to cope with the increased work and keep up the high standard of efficiency now attained.

The Act was extended to the various districts as follows:—

Extensions. -

To Ranigunj subdivision of		
Burdwan districts	-	September 1888.
„ Sonthal Paraganas	-	February 1890.
„ Bhagalpore Municipality	-	„ 1894.
„ Dacca and Narayangunj	-	June 1897.
„ Patna district	-	January 1902.
„ Shahabad	-	June 1908.
„ Monghyr	-	August 1908.
„ Pusa Estate	-	September 1908.
„ Singbhum	-	August 1909.
„ Gaya	-	May 1910.
„ Murshidabad	-	February 1911.
„ Chandpur	-	August 1912.
„ Nadia and Pabna	-	January 1913.

The following explosions have occurred in Bengal since the passing of the Boiler Act:—

Explosions.

January 1893, 13 men killed, including owner. In Ramtonoo Boses' Lane, Calcutta.

March 1905, three women killed. This boiler had no certificate for four years. Manager prosecuted and fined. In Bhalgora Colliery.

September 1906. A tube of a water tube boiler burst, severely scalding four of the boiler house staff. In Calcutta Electric Supply Corporation, Princep Street.

20th November, 1907. A vertical boiler exploded. Jessop and Company's Workshop, Garden Reach.

January 1911, resulting in serious loss of lives. This accident led to the extension to Murshidabad. Gadi Silk Filatures.

APPENDIX X.

MEMORANDUM prepared by the GOVERNMENT OF BURMA relating to the FACTORY INSPECTION DEPARTMENT, BURMA.

The Factory Inspection Department consists of one inspector alone, who has recently been recruited from England by the Secretary of State and is still on probation for one year. Previous to this officer's appointment, the district magistrate was *ex-officio* factory inspector for his district. The factory inspector is a whole-time officer, who is not permitted to engage in any other trade, business, or occupation. He is required to pass an examination in Hindustani within two years of the date of his arrival. His salary is fixed at Rs. 490-30-1,000 per mensem plus a Burma allowance of Rs. 100 per mensem, subject to the condition that the continuance of this allowance will depend on any decision that may in future be arrived at on the question of Burma allowances in general. He receives no house allowance or exchange compensation allowance, but draws travelling allowance as an officer of the 1st class. His leave allowances and pension are

regulated according to the rules in the Civil Service Regulations.

He is under the direct orders of the Local Government and is not subordinate to the district magistrate. He calls on the district magistrate whenever he is in the same station and keeps him advised of all matters of interest concerned with the factory administration of the district. All correspondence between him and the district magistrate is conducted direct and not through the divisional commissioner. Save in exceptional cases regarding which separate orders may be issued by the Local Government, he is entirely responsible for the administration of the Factories Act in every district of the province. He issues all necessary orders to factory managers and confirms or modifies, as he thinks fit, all provisional orders issued by district magistrates prior to his inspection.

APPENDIX XI.

MEMORANDUM prepared by the GOVERNMENT OF BURMA relating to the BOILER INSPECTION DEPARTMENT, with Supplementary Memorandum.

The Burma Boiler Commission was formed on the 1st April 1906 to undertake the supervision of the inspectors appointed under the Burma Steam-boilers and Prime-movers Act, and the administration of the Burma Steam-boiler Inspection Fund, which is an excluded local fund,

The Boiler Commission consists of the Deputy Commissioner, Rangoon Town, the Superintending Engineer and Shipwright Surveyor and two other Commissioners appointed by name from time to time by the Local Government. The Deputy Commissioner, Rangoon Town, is *ex officio* Chairman, and the Superintending Engineer and Shipwright Surveyor *ex-officio* Secretary of the Commission.

The Commissioners, other than the secretary, receive a fee of Rs. 40 each for attending each meeting of the Commission at which a quorum is present and business transacted. The charge is debitable to the Boiler Inspection Fund.

The superintending engineer and shipwright surveyor receives an allowance of Rs. 150 per mensem debitable to the boiler inspection fund for performing the duties of secretary and certain other duties connected with the working of the Burma Steam-boilers and Prime-movers Act.

The inspectors of steam-boilers and prime-movers are selected by advertisement from the class of trained mechanical engineers holding first-class Board of Trade certificates of competency.

There are four inspectors in Burma—one on Rs. 400–10–450 per mensem with a Burma allowance of Rs. 50 per mensem, and three on Rs. 350–10–400 per mensem each, with a similar Burma allowance. They are classed as officers of the second class for travelling allowance purposes. They are granted a

conveyance allowance, at the rate of Rs. 2 a day when on duty in Rangoon. They are also granted an allowance of Rs. 100 per mensem while on tour five miles or more out of headquarters (Rangoon) in addition to the ordinary travelling allowance at second class rates. The pay and allowances of inspectors are debitable to the Boiler Inspection Fund. They are allowed to retain half of the special fee of Rs. 50 for inspections made at the owner's request on Sundays and gazetted holidays.

They are entitled to rewards of Rs. 250 and Rs. 500, payable from the Boiler Inspection Fund, for passing the Government departmental examination in Burmese by the lower and higher standards respectively. Their leave allowances are regulated according to rules in the Civil Service Regulations, and their service has been declared to be pensionable.

SUPPLEMENTARY MEMORANDUM on above.

The pay and allowances of the inspectors have recently been revised. With effect from the 1st December 1913, the inspectors will receive pay at the rate of Rs. 450–10–600 per mensem. The present inspectors will be granted increments in advance of the due date at the rate of one increment for each year of service rendered. The Burma allowance of Rs. 50 per mensem and the allowance of Rs. 100 per mensem granted to the inspectors while on tour five miles or more from Rangoon will cease with effect from the same date.

The inspectors will in future be classed as first class officers for the purposes of travelling allowance. They have also been admitted to the benefit of the European services leave rules.

APPENDIX XII.

MEMORANDUM prepared by the GOVERNMENT OF MADRAS relating to the FACTORY INSPECTION DEPARTMENT.

The factory inspection staff, which consists of an inspector of factories on a pay of Rs. 400–30–1,000 with an establishment costing Rs. 171–8–0 per mensem, was constituted as a separate service with the introduction of the new Factories Act, 1911 (XII. of 1911), in July 1912. The inspection of factories had till then been conducted by "special inspectors" and "medical inspectors" appointed by notification under section 3 of the Indian Factories Act, XV. of 1881. In the Mufassal, assistant and sub-divisional magistrates, district medical, and sanitary officers and specified civil surgeons, respectively, held these appointments *ex-officio*, with the district magistrate as the controlling officer; while in Madras City the inspector of steam-boilers and prime-movers and the personal assistant to the surgeon-general, respectively, were *ex-officio* special and medical inspectors, the sanitary engineer to the Government of Madras being the controlling officer. Railway factories were, however, specially treated, save as regards medical inspection, the Deputy Consulting Engineer for Railways being originally the *ex-officio* special inspector under the supervision of the Consulting Engineer for Railways. After the abolition of these two railway appointments in 1908 the work of inspection fell to the junior and the senior Government inspectors of railways.

1. Medical officers were allowed fees for each inspection at the rate of Rs. 32 for factories employing 200 or more persons, and Rs. 16 for those employing less than 200 persons, subject, however, to a maximum of Rs. 2,400 per annum.

The inspector of steam-boilers and prime-movers, whose pay was Rs. 500–40–700, drew a conveyance

allowance of Rs. 50 per mensem in his capacity of factory inspector for Madras City.

2. The Factory Labour Commission sitting in 1907–8 recommended the abolition of inspection by medical officers and other *ex-officio* inspectors, urging that such inspection was a mere formality leading to the issue of conflicting orders. The Commission pressed for the appointment of a full-time inspector for this Presidency and suggested that the salary should commence from Rs. 400 a month or upwards (the initial salary being fixed in each case with reference to the inspector's qualifications) and should rise by annual increments of Rs. 30 to Rs. 1,000. The Madras Government generally accepted these recommendations and they were sanctioned by the Secretary of State in 1912.

3. In pursuance of this sanction, Mr. H. T. Walters, who had been Inspector of Steam-boilers and Prime-movers and Inspector of Factories for Madras City since 1900, was appointed by this Government to the post of full-time inspector, the inspector being declared officially subordinate to the Board of Revenue (Separate Revenue). Under the rules framed by this Government the full-time inspector is primarily responsible for the administration of the Act throughout the Presidency. He is required to inspect every factory, other than a seasonal factory, once in every half-year and every seasonal factory at least once during each season of work. The Commissioner of Police has been appointed an additional inspector within the limits of Madras City, but his powers and duties, like those of district magistrates, who are *ex-officio* inspectors under the Act, are mainly confined to

APPENDIX XII. (continued).

seeing whether the orders of the full-time inspector have been duly carried out.

4. In his newly-created appointment, in accordance with the rule laid down in Article 157A of the Civil Service Regulations, Mr. H. T. Walters began by drawing Rs. 700 per mensem, the pay last drawn by him as Inspector of Steam-boilers and Prime-movers, but his total emoluments were in fact reduced by the withdrawal of the conveyance allowance of Rs. 50 which he had been receiving in his former appointment. In view of the facts that his new appointment has added considerably to his responsibilities, and that he will be debarred by age (he is now 49 years old) from attaining the maximum pay, the Government considered that he should not suffer pecuniarily by the change and passed orders restoring the conveyance allowance. Owing to an account objection the payment of the allowance has been withheld pending the orders of the Government of India.

5. With the appointment of the full-time inspector, medical inspection of factories has ceased. Those

medical officers, however, who have been appointed certifying surgeons under the Act, are allowed a fee of As. 4 for every certificate granted by them. This fee which, under the old Act, was paid by factory owners is now paid by the Government.

6. No special qualifications have been prescribed for the post of Inspector of Factories, which is attached to the provincial service, nor is the appointment of a non-European to the post prohibited. The rules regulating leave, allowance and pension are those which govern the Indian services. The relations between the Inspector of Factories and the Indian Civil Service and other services are those created by the fact that he is an officer subordinate to the Board of Revenue (Separate Revenue) and that district magistrates as *ex-officio* inspectors and the Commissioner of Police, Madras, as an additional inspector appointed under subsection 4 of section 4 of the Act, are expected to assist the full-time inspector in administering the Act. These relations have so far been satisfactory.

APPENDIX XIII.

MEMORANDUM prepared by the GOVERNMENT OF MADRAS relating to the BOILER INSPECTION DEPARTMENT.

1. The present regulations as to recruitment, training and probation, and whether these regulations are satisfactory.—There are no regulations at present for recruitment, training, and probation. This staff is recruited from men who have sufficient practical experience and knowledge of the technical work required from them.

2. The rates of pay and allowances in force in 1890 and 1900 and at the present time; and whether the present rates of pay and allowances are satisfactory.

	1890.	1900.	1913.
	Rs.	Rs.	Rs.
Senior inspector -	250	500	500-40-700
Second inspector -	—	—	350-20-450
Third inspector -	—	—	300-10-350

The rates of pay are considered satisfactory at present. There are no allowances except travelling allowances which are regulated by the Civil Service Regulations.

3. The number of posts in each grade and the provision, if any, made in the cadre for leave and training.—There is one post at present in each grade and no provision is made for leave and training. In leave vacancy an extra man is temporarily engaged.

4. What appointments outside the authorised cadre are held temporarily or otherwise by officers of that service.—Nil.

5. Whether any addition is required to the present cadre.—No addition is required at present. When the number of boilers to be inspected increases to that point when three inspectors cannot overtake the work the question of engaging a fourth inspector will have to be considered.

APPENDIX XIV.

MEMORANDUM prepared by the GOVERNMENT OF BOMBAY relating to the FACTORY and COTTON EXCISE DEPARTMENT.

1. Recruitment, training, and probation.—The selection of officers for the post of factory inspectors has not been carried out on any hard and fast lines. The officers appointed before 1894 were men who had acquired experience as factory inspectors in England. The officers selected thereafter were men who were already in India and had practical experience either in factories or in business in India. Owing to the recommendations of the Factory Labour Committee of 1906 and of the Indian Factory Labour Commission of 1908 that officers appointed as inspectors should have some experience of the inspection of factories as carried out in England after, if not before, appointment, the later tendency has been to select officers in England. The two inspectors last appointed were recruited in England; one of these had some previous experience in India as a weaving master and the other had a good training as an engineer. The other factory inspectors now serving were appointed in India.

The appointments are usually probationary for one year and subject to the officer passing a conversational test in Hindustani. On appointment a new inspector is usually attached to a more experienced inspector for a short time so that he may get some training under the new conditions.

Generally speaking the recruitment in the past has proved satisfactory, but, in view of the increased responsibilities devolving under the new Act on factory inspectors and the increasing tendency to assimilate

factory legislation in India to that existing in England, it is very desirable that in future recruits should possess some experience of factory inspection work in that country.

2. Rates of pay and allowances, the number of appointments in each grade, &c.—The rates of pay and allowances in force in 1895,* 1900, and on the 1st April 1913, respectively, are shown in the attached statement, which also shows the number of appointments in the grades. No provision is made in the cadre for leave or training.

3. Appointments held outside the authorised cadre by officers of the department.—No appointments outside the authorised cadre are held by officers of the Factory Inspection Department.

4. Whether any addition is required to the present cadre.—The present staff, though recently strengthened, is still scarcely equal to the demand on their work and the time of another inspector could be fully utilised in addition to the provision of one more inspector to allow of the taking of leave without dislocation of work.

The checking of factory-returns under the Cotton Duties Act adds considerably to the duties of the factory inspectors.

* There was no regular constitution or establishment before 1895 and hence this year has been taken for comparison.

APPENDIX XIV. (continued).

STATEMENT showing the NUMBER of POSTS in each GRADE, ALLOWANCES DRAWN, &c., for the FACTORY AND COTTON EXCISE DEPARTMENT.

Year.	No. of Appointments.	Name of Appointment.	Pay.	Whether any Bombay or House Allowance drawn.	Travelling Allowance drawn at Rates (whether as Admissible to Officers of First or Second Class as defined in the Civil Service Regulations).	Conveyance Allowance drawn.	Remarks.
1st April 1894.	1	Assistant Collector§ and Chief Inspector of Factories.	Rs. 700	Rs. *100	†—	Rs. 50	* Local allowance. † Chief Inspector's duties lay in making inspections in Bombay.
	1	Presidency Inspector of Factories.	450-30-600	Nil	First class -	Nil	For comparison year, 1895 is taken as prior to that there was no regular constitution or establishment.
	1	First Inspector of Factories.	400-20-500	Do.	Second class -	30	
	1	Second Inspector of Factories.	300-20-400	Do.	Do. -	30	
4							
1st April 1900	1	Assistant Collector§ and Chief Inspector of Factories.	700	*100	—	50	* Local allowance.
	1	Presidency Inspector of Factories.	450-30-600	Nil	First class -	Nil	
	1	First Inspector of Factories.	400-20-500	Do.	Second class -	30	
	1	Second Inspector of Factories.	300-20-400	Do.	Do. -	30	
1st April 1913	4						
	1	Chief Inspector of Factories.	1,000-50-1,250	Nil	First class -	Nil	
	4	Inspectors of Factories.	400-30-900 each.	Do.	First class each	—	Out of these four inspectors such as may be stationed in Bombay are entitled to a conveyance allowance of Rs. 40 per mensem each.
	5						

§ Belonged to the Indian Civil Service and performed other duties besides those of Chief Inspector of Factories. Up to 1905-6 pay was debited to "9—Customs—Factory Excise."

APPENDIX XV.

MEMORANDUM prepared by the GOVERNMENT of BOMBAY relating to the BOILER INSPECTION DEPARTMENT.

1. Recruitment, Training, and Probation.—No rules have been laid down for the appointment of inspectors, but in practice they are appointed by selection from among the applicants (applications being generally invited by advertisement) who possess a Board of Trade certificate or a first-class engineering certificate in India, who have had practical experience of the management of land and marine boilers and whose certificates of general character are entirely satisfactory. Recommendations are made to Government by the Collector of Bombay. As it is necessary that the inspectors should have experience, the account rule debarring persons from joining the public service after the age of 25 has been relaxed in their case. They receive no special training before commencing their work, but an inspector when first appointed is

usually stationed in Bombay so that his work is under the direct supervision of the Chief Inspector. The term of probation is usually one year and the inspectors are required to pass a colloquial test in Hindustani within two years of the date of their first appointment.

2. Rates of Pay and Allowances, the Number of Appointments in each Grade, &c.—The rates of pay and allowances in force in 1890, 1900, and on the 1st April 1913, respectively, are given in the attached Statement which also shows the number of appointments in each grade. No provision is made in the cadre for leave or training.

3. Appointments held outside the authorised Cadre by Officers of the Department.—No appointments outside the authorised cadre are held by officers of this department.

APPENDIX XV. (continued).

STATEMENT showing the NUMBER OF POSTS in each GRADE, ALLOWANCES DRAWN, &c., for the STEAM BOILER DEPARTMENT.

Year.	No. of Appointment.	Name of Appointment.	Pay.	Travelling Allowance drawn at Rates (whether as Admissible to Officers of First or Second Class as defined in the Civil Service Regulations).	Conveyance Allowance drawn.	Remarks.
1st April 1890	1	Senior Inspector of Steam Boilers.	Rs. 650	*First class	†Rs. 50 per mensem.	*For occasional visits to the mofussil to supervise his junior inspector's work. †Senior Inspector's duties chiefly lay in making inspections in Bombay Town.
	1	Junior Inspector of Steam Boilers.	300-10-350	Second class	Nil - - -	Junior Inspector's duties chiefly lay in making inspections in the mofussil.
1st April 1900	2					
	1	Senior Inspector of Steam Boilers.	650	First class	Rs. 50 per mensem.	
	1	Second Inspector of Steam Boilers.	350-10-400	Second class	} Entitled to actual conveyance expenses only when assisting the Senior Inspector in Bombay inspections.	
	1	Third Inspector of Steam Boilers.	300-10-350	Do.		
	1	Fourth Inspector of Steam Boilers.	250-10-300	Do.		
4						
1st April 1913	1	Chief Inspector of Steam Boilers.	1,000-100-1,500	First class	—	
	1	First Inspector of Steam Boilers.	500-10-600	Do.	} Of these such of the two Inspectors as may be stationed in Bombay are allowed Rs. 50 each per mensem as fixed conveyance allowance.	} The Chief Inspector as well as the other Junior Inspectors, except the two in receipt of fixed conveyance allowance draw actual conveyance expenses while doing Bombay inspections.
	6	Junior Inspectors of Steam Boilers.	300-10-500 each	Second class each.		
8						

N.B.—In the year 1896 the officers have been exempted from the operation of section 1159 (present edition 1056) of the Civil Service Regulations which prevented them from drawing halting allowance for more than 10 days of a halt at one place.

APPENDIX XVI.

MEMORANDUM prepared by the ADMINISTRATION of the CENTRAL PROVINCES and BERAR relating to the FACTORY and BOILER INSPECTION DEPARTMENTS.

1. Recruitment, Training, and Probation.—In the Central Provinces and Berar the duties of boiler and factory inspection are combined. The present organisation of the Department dates from 1907. The appointment of junior inspector was given to an officer who had previously performed the duties of inspector of factories and steam boilers in Berar. For the appointment of senior inspector the Administration selected from a large number of applicants an officer who was previously an inspector of boilers under the Bombay Government. Prior to 1907 the work of factory inspection in the Central Provinces was entrusted to the Presidency Inspector of Factories, Bombay.

2. Rates of Pay.—The present rates of pay are—

Post.	Pay per mensem.
	Rs.
Senior inspector	400-20-600
Junior inspector	300-20-400

In 1900 the inspector of factories and steam boilers in Berar was on a rate of pay of Rs. 250-20-350 per mensem.

3. Number of Posts and provision for Leave and Training.—There are only the two posts of junior and senior inspector. In the absence on leave of either inspector, the combined duties are performed by the remaining officer.

APPENDIX XVI. (continued).

4. Appointments outside the authorised Cadre.—None.

5. Additions to the Cadre.—The necessity of increasing or altering the staff employed for the inspection of factories was discussed by the Chief Commissioner, on a reference from the Government of India, in 1909. As the Factory Commission had no serious criticism to offer to the existing arrangements, the Chief Commissioner, although not entirely satisfied with these arrangements, did not consider that the question of remodelling the staff could be taken up at present. The Government of India agreed with this recommendation, but suggested that the appointment

of an inspector of superior status should be considered as soon as an opportunity offered. No proposals in this direction have yet been formulated, but it will be desirable to revise the whole arrangements and raise the pay of the appointments so as to secure candidates of better training as soon as the present incumbent retire.

In order to do this the scale of pay should be raised to the following:—

Post.	Pay per mensem. Rs.
Junior inspector	400-30-700
Senior inspector	700-30-1,000

APPENDIX XVII.

PAPERS relating to the RE-ORGANISATION of the FACTORY INSPECTION STAFF IN INDIA.

(i) *Despatch from the Government of India, No. 38, dated the 15th February 1912, to His Majesty's Secretary of State for India.*

We have the honour to address your Lordship on the subject of the re-organisation of the factory inspection staff in India.

2. In paragraph 107 of their report the Factory Commission expressed the opinion that except at a few centres the existing system of factory inspection had proved a failure; and that this was due to the fact that a sufficient number of full time inspectors had not been appointed and that too much reliance had been placed on *ex-officio* inspectors, who had neither the time nor the special knowledge necessary for the work. The Commission recommended that the periodical inspection of factories by district magistrates, civil surgeons, and other *ex-officio* inspectors should be abandoned and that the staff of whole-time inspectors should be increased to a strength sufficient to cope with the work of inspecting all the factories in India. They submitted proposals as to the number of inspectors who should be appointed in the different provinces, the qualifications which they should possess, and the salaries which should be granted to them.

3. In July 1908, the views of local governments and administrations were invited on the recommendations made by the Commission and the hope was then expressed that in any province, where the Commission's report showed that serious abuses prevailed, no time would be lost in strengthening the inspection staff temporarily until the number of officers required to secure compliance with the law could be finally determined. The result of this communication, was that a separate inspector was appointed temporarily in the United Provinces, where the work of factory inspection had previously been carried on by the special inspector of factories in Bengal, and an additional inspector was also appointed temporarily both in Bombay and in Bengal. These inspectors will remain on a temporary basis until the question of the permanent staff, on which we are now addressing your Lordship, is decided.

4. From the enclosed copies of the replies received, it will be seen that several local governments have concurred generally with the opinion of the Commission on the subject of inspections; but objections have been raised by some to the entire abolition of *ex-officio* inspectors. We are in general accord with the recommendations of the Commission on this subject, and have instructed local governments to give these recommendations as full a trial as possible. Under the new Factories Act the district magistrate is retained as an inspector, and the local government is given power to appoint such public officers as it thinks fit to be additional inspectors. But it is contemplated that local officers will only be given the powers of an inspector in outlying areas which the full-time inspectors cannot regularly reach, and the district magistrate will ordinarily confine his inspections to seeing that the orders passed by the full-time inspector are duly observed. Similarly, with regard to inspections

by civil surgeons, we consider that with the appointment of qualified full-time inspectors in the different provinces the supervision of sanitary matters may, in accordance with the recommendation of the Commission, be left to them. We would invite your Lordship's attention to paragraphs 3 to 6 of our circular letter to local governments, No. 4086-4095, dated the 1st June 1911, in which the question of *ex-officio* inspectors has been dealt with at some length. A copy of this letter was forwarded to your Lordship with our despatch No. 55 (Factories), dated the 19th October 1911.

5. The discontinuance of inspection by *ex-officio* inspectors and the increased responsibilities in connection with the regulation of factory labour, which the new Factories Act creates, necessarily involve the extended employment of full-time inspectors in the various provinces, and we think that this course is essential, if the law is to be effectively administered. We attach a statement (Statement A) showing the present number of inspectors in the different provinces, the number proposed by the various local governments, and the salaries which the latter recommend. It will be observed from this statement that it is proposed to appoint new inspectors in all the provinces except the United Provinces and the Central Provinces; and that it is only in Bombay and the presidency of Bengal that the number of inspectors recommended by the local governments exceeds that suggested by the Factory Commission.

6. The Governments of Bengal and Eastern Bengal and Assam have recommended three inspectors instead of two as proposed by the Commission. We are of opinion that three inspectors represent the minimum staff required to ensure the satisfactory administration of the Act in North-East India. It was in Calcutta that the Factory Commission found that abuses were most prevalent and it is in our opinion in the jute mills, where the shift system is in force, that the need of efficient inspection to ensure compliance with the Act is the greatest. We support the recommendation of the local governments for the appointment of a chief inspector and two subordinate inspectors.

The administrative changes recently announced will not in our opinion necessitate any modification in the number of inspectors proposed. According to our latest figures the province of Bihar and Orissa will contain only 28 factories under the Act and Assam only 18, while in the presidency of Bengal there will be 328. It is clear that there will not be sufficient work for a whole-time inspector in either of the first-named provinces. Inspections in these provinces can be satisfactorily carried out by the staff now recommended for Bengal.

7. The Government of Bombay have recommended five inspectors including one full-time chief inspector. The Factory Commission suggested four inspectors in all for the Bombay Presidency, and apparently contemplated the continuance of the existing arrangement under which a member of the Indian Civil Service, who is also assistant collector of Bombay, supervises and controls the work of the full-time inspectors under

APPENDIX XVII. (continued).

the designation of chief inspector. When communicating their views on the report of the Factory Commission, the Bombay Government expressed the opinion that in view of the rapid increase in the number of factories in the presidency, and the growing complexity of factory questions, the existing system of appointing a chief inspector from the junior ranks of the Civil Service is no longer suitable, and that the chief inspector should in future be an officer with technical training recruited outside the Civil Service, either in England or from the staff of factory inspectors in India. In this manner the local government hoped to secure the services of an expert and also greater permanence in the tenure of the appointment than has hitherto been found possible. We entirely agree with the views expressed by the Government of Bombay in this matter, and consider that the staff of inspectors proposed by them is reasonable.

8. At present there are no full-time inspectors of factories in Burma, the Punjab, and Madras, while in the United Provinces an inspector was engaged temporarily in January 1909. In each of these provinces the local government proposes to appoint one full-time inspector, as suggested by the Factory Commission. The necessity for the appointments requires no demonstration, and the recommendations of the local governments have our entire support. As the number of factories in Ajmer-Merwara and the North-West Frontier Province is very small, we propose to add them to the charge of the inspector for the Punjab.

9. In the Central Provinces and Berar there are at present two inspectors who are also inspectors of boilers. The senior inspector draws Rs. 400-20-600 and the junior Rs. 300-20-400 a month. The terms of employment of these inspectors have not yet expired, and the Chief Commissioner, although not altogether satisfied with the existing arrangements, would prefer to make no change for the present. With this recommendation we agree; but after the reorganisation of the Factory Inspection staff throughout the rest of India is settled, we shall request the Chief Commissioner to consider the question of the appointment of an inspector of superior status as soon as opportunity offers.

10. In connection with the duties to be performed by inspectors, we wish to draw attention to a matter which calls for some explanation. In paragraph 108 of their report the Factory Commission recommended that the inspectors appointed in the Central Provinces, the Punjab and Burma should also be the boiler inspectors for their respective provinces. This recommendation was made on the ground that though there were large numbers of seasonal factories for cotton ginning, rice husking, &c., in these provinces, the number of large factories working throughout the year was comparatively small, and if the inspectors had only duties under the Factory Act to perform, they would not be fully employed during the months when the seasonal factories were shut down. As stated above the duties of boiler and factory inspectors are at present combined in the Central Provinces and Berar, and the Chief Commissioner thinks that the arrangement is a convenient one, and ensures the time of the officers being properly utilised throughout the year. The Government of the Punjab has agreed that the inspector to be appointed for that province should also inspect boilers, and that the present post of inspector of boilers on Rs. 350-10-400 a month should be abolished on the creation of the new appointment. In Burma there are at present two inspectors of boilers, one on Rs. 400-10-450, and the other on Rs. 350-10-400 a month. It has been decided that a third inspector of boilers should be appointed, when the number of inspections and the fees have sufficiently increased to require and to admit of his appointment; in the meantime the two boiler inspectors are assisted from time to time by the assistant to the superintending engineer and shipwright surveyor, Rangoon, half of whose salary is debited to the boiler fund. The Government of Burma strongly objects to the inspector of factories undertaking the duties of boiler

inspection, partly because the qualifications of an inspector of boilers are not those required of a factory inspector; and partly because the factory inspector would also have to be under the control of the Boiler Commission, which in the opinion of the Lieutenant-Governor would be detrimental to the efficiency of his work as factory inspector.

We think that as a general rule it is inadvisable to combine the duties of inspectors of factories and inspectors of boilers. The main qualification required of the latter is a definite technical experience of a restricted kind, whereas the delicate and responsible duties devolving upon the former necessitate the employment of men of a superior class. We think, moreover, that the inspector of factories appointed for Burma will have quite sufficient work in connection with factory inspection alone to occupy his time. We agree therefore with the recommendation of the Government of Burma in this respect. But we recognise that at present it is not possible to effect separation everywhere, and for this reason we have not opposed the amalgamation of the two duties in the Central Provinces and the Punjab. In the United Provinces the temporary inspector of factories has been placed in charge of the boiler inspectors, and this arrangement has resulted in the abolition of one of the posts of boiler inspectors. In Bengal also the chief inspector of factories is secretary to the Boiler Commission, and has control over the boiler inspectors. We propose to allow this arrangement to continue, as it is desired by the local government.

11. We shall now deal with the question of the pay which should be drawn by the inspectors. To secure men of the proper stamp and position the Factory Commission, in paragraph 111 of their report, recommended that the salary of the inspectors should commence from Rs. 400 a month or upwards, and should rise by annual increments of Rs. 30 to Rs. 1,000, the initial salary being fixed in each case with reference to the man's qualifications. It will be seen from Statement A attached to this despatch that the Local Governments have proposed various rates of pay for the inspectors in the different provinces. We are of opinion that in provinces where it is proposed to employ a single inspector, namely, in Burma, the United Provinces, the Punjab, and Madras, the standard rate of pay should be Rs. 400-30-1,000 a month. This rate of pay is agreed to by the Governments of the Punjab and Madras. The Government of the United Provinces considers that the qualifications required of an inspector of factories would justify an initial pay of Rs. 500 a month. We propose, however, that the standard rate stated above should apply also to the United Provinces; but it is contemplated (*vide* paragraph 17 below) that the present temporary inspector in that province who is in receipt of Rs. 533.5.4 a month should be made permanent and come on to the new scale at the stage of Rs. 550. The Government of Burma proposes a salary of Rs. 600-50-1,200 a month in consideration of the high cost of living in that province. We think that this rate of pay is excessive, and that the inspector for Burma should be granted the standard rate of pay, plus the usual Burma allowance of Rs. 100 a month, subject to the condition that the continuance of the allowance will depend on any decision that may be arrived at on the general question of allowances, which is no under our consideration. We do not think that the inspector should in addition be granted a conveyance allowance of Rs. 5 a day when on duty at Rangoon, as recommended by the local government.

12. But in provinces where there are more than one inspector, we recognise that the standard rate of pay would not be altogether suitable. The Bombay Government have proposed a pay of Rs. 1,000-50-1,250, plus house allowance under the Bombay House Allowance Scheme for the chief inspector. We accept this rate of pay as reasonable, but are unable to agree that the chief inspector should also be admitted to the benefits of the house allowance scheme. We consider that the pay suggested is sufficient without any special allowance to cover the expense of living in Bombay.

APPENDIX XVII. (continued).

For the four junior inspectors in the Bombay Presidency, we would accept the rate of pay suggested by the local government, viz., Rs. 400-30-900 a month. But in their case also we are unwilling to agree to the proposal that the two inspectors, who will be stationed in Bombay, should receive local allowances of Rs. 50 a month and also be admitted to the benefits of the Bombay House Allowance Scheme. The grant of a local allowance is on principle objectionable, because it was with the object of abolishing such special privileges that the house allowance scheme was sanctioned, and because the effect would be to differentiate between the officers in Bombay and those stationed in Calcutta and Rangoon and inasmuch as the prospects of the officers concerned will be considerably improved when the reorganisation is effected, we think that there is no valid ground for admitting them to the house allowance scheme. At the same time we recognise that in order to facilitate interchange of inspectors between Bombay and Ahmedabad, some kind of extra remuneration is necessary for those who may be stationed in the Presidency town, and we consider that the best plan will be to retain the conveyance allowances of Rs. 50 and Rs. 30 a month, which are now granted to the first and second inspectors respectively, and divide them equally between the two inspectors who will be stationed in Bombay. The grant of conveyance allowances, which are intended to meet a specified form of expenditure is not, in our opinion, open to the objections which the admission of local allowances involves.

13. For the reconstituted provinces of Bengal, Bihar, and Assam, the local governments propose a chief inspector on Rs. 700-50-1,000. The present incumbent, Mr. Walsh, draws a pay of Rs. 800-50-950 a month, which is personal to him, *plus* exchange compensation allowance, *plus* a conveyance allowance of Rs. 30 a month. In addition, he receives allowance of Rs. 250 a month from the boiler fund for performing the duties of Secretary to the Boiler Commission.

We propose that the pay of the post should be fixed at Rs. 800-50-1,000 without any conveyance allowance and that the allowance of Rs. 250 a month from the boiler fund should be continued to the chief inspector as long as he performs the duties for which it is granted. The chief inspector will not be eligible for admission to the Calcutta House Allowance Scheme. For the two junior inspectors in these provinces we accept the rate of pay proposed by the local governments, viz., Rs. 400-30-700 a month.

14. As already stated, we propose no change for the present in the arrangements which are in force in the Central Provinces and Berar.

15. When the new scheme comes into force, no exchange compensation allowance will be granted to any of the inspectors, unless in any case where it is now drawn, its withdrawal causes a loss in total emoluments; in which case it will continue to be drawn until such loss disappears.

16. The proposals made by the various local governments regarding the additional subordinate establishments that will be required are shown in Part II. of the accompanying proposition statement. We consider that the demands made in this respect are reasonable and should be approved.

17. We have now to detail our proposals as to the manner in which the new appointments should be filled. The Factory Commission recommended that the inspectors should continue to be appointed by the local governments, and with this we entirely agree. For Bombay the local government propose to appoint Mr. Engel, the present first inspector in that Presidency, to the post of chief inspector. They further propose that on the introduction of the new scheme, Mr. Chambers should be first inspector commencing on Rs. 700, Mr. McCormack, second inspector on Rs. 600 and Mr. Whitaker, third inspector on Rs. 530 a month. The salaries, inclusive of allowances, at present drawn by these officers are Rs. 505, Rs. 540, and Rs. 500 respectively. We consider that Mr. Chambers, who is now over 50 years of age, should be treated specially, and that he should be brought on to the new scale at

the stage of Rs. 610, but we consider that the initial pay of Mr. McCormack should be regulated by the ordinary rule, laid down in Article 157 A of the Civil Service Regulations. Mr. Whitaker, at present temporary inspector, has already been for three years on the same pay (Rs. 500), and we propose that on the reorganisation, he should come on to the new scale at the stage of Rs. 520, *i.e.*, at one stage higher than he would be entitled to under the ordinary rules. In Bengal, Mr. Walsh, the present first inspector, will come on to the new scale under the ordinary rules, but the conveyance allowance of Rs. 30 at present drawn by him will be reckoned as part of his substantive pay, for the purpose of fixing his initial pay under the new scheme. The temporary inspector, Mr. Cowan, whose pay is Rs. 500, *plus* a conveyance allowance of Rs. 50, will be similarly treated. In the United Provinces, Mr. Parker, the temporary inspector appointed in January 1909, draws Rs. 533.5.4 a month. We propose that when the reorganisation comes into force, he should be allowed to come on to the new scale at the stage of Rs. 550, *i.e.*, at one stage higher than he would be entitled to under the ordinary rules.

18. The Governments of Burma and the Punjab desire that the inspectors to be appointed for these provinces should be recruited in England. The Government of Bombay have made a similar request with regard to the post of fourth inspector of factories. The Government of Madras, on the other hand, do not find it necessary to ask that the inspector of factories to be appointed for that Presidency should be recruited in England, nor do the Government of Bengal desire that the additional inspector of factories to be appointed for Bengal should be so obtained.

19. The Governments of Bombay and Burma consider it desirable that the selected candidate should have had previous experience of the work of factory inspection in England. The Government of Burma proposes to lay down that the inspector should not be entitled to any increment until he has passed in Burmese by the lower standard and that he should not be entitled to draw more than Rs. 750 a month until he has passed in Burmese by the higher standard; further, that he should be allowed to appear for the examination in Hindustani and should be eligible for the same reward as that fixed in the case of officers of most other departments, viz., Rs. 250 for passing by the lower standard and Rs. 500 for passing by the higher standard. The Government of Bombay suggest that the inspector's agreement should provide for a probationary period of one year within which he should be liable to pass such examination in the vernacular as may be prescribed by the local government. If our proposals for the reorganisation of the factory inspection staff meet with your Lordship's approval, we would request that officers may be appointed in England as early as possible, as desired by the Governments of Bombay, Burma, and the Punjab, and that the wishes of the local governments in respect to the conditions of their appointment may as far as possible be met. We suggest that it would be desirable that the agreements should in each case provide for a probationary term of one year and for liability to pass such examinations in the vernacular as the local government may prescribe.

20. In paragraphs 8 to 10 of their letter No. 2,087, dated the 5th May 1910, the Government of Bombay have made certain proposals in regard to the appointment of a certifying surgeon for the town and island of Bombay. These proposals appear to us to be unnecessarily expensive, and we have asked the local government to revise them. We have not delayed submitting our recommendations on the subject of the factory inspection staff proper, until the kindred questions of the appointment of certifying surgeons and the remuneration of civil surgeons and other medical officers for the performance of duties in connection with the certification of children are ready for settlement. These questions are in reality entirely separate from the question of the inspection staff, and will form the subject of a subsequent despatch. Meanwhile, in view of the fact that the new Factories Act comes into force on the 1st July 1912, the

APPENDIX XVII. (continued).

reorganisation of the inspection staff has become a matter of urgent importance.

21. The proposals in the foregoing paragraphs may be summarised as follows :—

(1) In the Bombay Presidency the staff to consist of a chief inspector on a salary of Rs. 1,000-50-1,250, and four inspectors on Rs. 400-30-900. Two of the latter to be stationed in Bombay City and to receive a conveyance allowance of Rs. 40 each. No other special allowances to be drawn. Mr. Engel to be appointed chief inspector. Mr. Chambers to come on to the new scale at the stage of Rs. 610, Mr. Whitaker at the stage of Rs. 520, and Mr. McCormack under the ordinary rules laid down in the Civil Service Regulations.

(2) In the reconstituted provinces of Bengal, Bihar, and Orissa and Assam the staff to consist of one chief inspector on Rs. 800-50-1,000 and two inspectors on Rs. 400-30-700. The chief inspector to draw an allowance of Rs. 250, as long as he performs the duties of secretary to the Bengal Boiler Commission. No other special allowances to be drawn, but the conveyance allowances at present drawn by the two existing inspectors to be counted as pay for the purpose of determining the initial pay of the holders under the new scale.

(3) One inspector to be appointed for Burma, on a pay of Rs. 400-30-1,000; also to draw Burma allowance of Rs. 100, subject to the condition that the continuance of this allowance will depend on any decision that may in future be arrived at on the question of Burma allowances in general. No other special allowances to be drawn.

(4) One inspector to be appointed for the United Provinces on a pay of Rs. 400-30-1,000. The present temporary inspector, if appointed by the local government, to come on to the new scale at the Rs. 550 stage. The inspector will also control the boiler inspectors in the province.

(5) One inspector to be appointed for the Punjab on a pay of Rs. 400-30-1,000. He will also be boiler inspector for the province, and will be responsible for the inspection of factories in the North-West Frontier Province and Ajmer-Merwara.

(6) One inspector to be appointed for Madras on a pay of Rs. 400-30-1,000.

(7) No change to be made in the arrangements at present existing in the Central Provinces and Berar.

(8) One of the four junior inspectors in Bombay and the inspectors for Burma and the Punjab to be recruited as soon as possible in England. Their agreements to provide for a probationary term of one year and for liability to pass such examinations in the vernacular as the local government may prescribe. The remaining inspectors to be appointed in India by the local governments.

(9) The subordinate establishments shown in the proposition statement attached* to be entertained.

22. From the proposition statement* it will be observed that the extra expenditure involved in our proposals amounts to Rs. 66,654.10.0 a year. The discontinuance of inspections by *ex-officio* medical inspectors, who are at present remunerated by the grant of fees under the sanction conveyed in Lord George Hamilton's despatch No. 58, dated the 24th March 1898, will, however, result in an approximate saving of Rs. 69,600. Taking this into account, our proposals will result in a net saving of Rs. 2,945.6.0 a year.

Schedule of Papers.

Statement A.*

Proposition Statements, Parts I.*

(ii) *Despatch from His Majesty's Secretary of State for India. No. 37, Revenue, dated the 26th April 1912. To the Government of India.*

Having considered in council the letter of Your Excellency's Government in the Finance Department, No. 38, dated 15th February last, I sanction your proposal, as summarised in paragraph 21 of that letter, for the reorganisation of the factory inspection staff in

India, and will take the necessary steps to appoint the three inspectors required for Bombay, Burma, and the Punjab.*

2. The factory inspectors in the several provinces are at present Europeans, and this will probably continue to be the case in the absence of arrangements by which Indians might obtain the requisite training. In drawing your attention to this matter I would ask you to consider whether in Bengal and Bombay, where the inspecting staff is largest, provision for this training might not be made by the creation of one or more posts of probationary factory inspector. The fitness of a probationary inspector for responsible work might on occasions be tested by appointing him temporarily to act as an inspector in the event of a leave vacancy.

(iii) *Letter from the Secretary to the Government of Bombay, General Department, No. 4942, dated the 29th July 1912. To the Secretary to the Government of India, Department of Commerce and Industry.*

I am directed to refer to paragraph 2 of your letter No. 4127-4137-16, dated the 25th May 1912, in which the Government of India have called for an expression of the opinion of the Government of Bombay on the question raised by the Secretary of State whether in the provinces in which the factory inspection staff is largest provision cannot be made for the training of Indians for employment as factory inspectors by the creation of one or more posts of probationary factory inspector.

2. In reply, I am to state that the Governor in Council is of opinion that it would not be advisable for the present to appoint an Indian as factory inspector in this presidency even on probation. A large number of factories in Bombay are managed by Europeans and many of them employ a considerable staff of European foremen and workmen. In such circumstances only an Indian of exceptionally wide practical experience, intelligence, force of character and commonsense would be able to carry out the duties of inspector efficiently, and such a person would not be attracted by the small pay which a probationary appointment would offer. The importance of securing none but the best men available for the administration of the new Act is so great that His Excellency the Governor in Council, while recognising the desirability on other grounds of preparing for the ultimate employment of Indians in this branch of Government service, deprecates the adoption of a step which would in his opinion tend to the lowering of its standard of efficiency, and which might, if adopted prematurely, lead to conclusions detrimental to the ultimate attainment of an object to the importance of which His Excellency in Council is fully alive.

(iv) *Letter from the Secretary to the Government of Bengal, General Department, No. 6971, dated 7th December 1912. To the Secretary to the Government of India, Department of Commerce and Industry.*

I am directed to refer to your letter No. 4127-4137-16, dated the 25th May 1912, in which you ask for an expression of opinion of this Government on the suggestion made by the Secretary of State for India, for the creation of posts of probationary factory inspector in the Presidencies of Bengal and Bombay where the inspecting staff is largest, in order to provide for the training of Indians as inspectors of factories.

2. In reply, I am to forward, for the information of the Government of India, the accompanying copies of the replies of the Government of Bihar and Orissa and the administration of Assam, who were consulted by this Government on the proposal, these provinces being served by the Bengal factory staff. It will be noticed that the Government of Bihar and Orissa would have no objection to an Indian probationary inspector of factories being appointed occasionally to act as an

* Not reprinted.

* Vide Appendix XVIII.

APPENDIX XVII. (continued).

inspector of factories in that province, while the Chief Commissioner of Assam supports the proposal that Indians should be trained for employment as factory inspectors. I am, however, to observe, that by far the greater portion of the work of the Bengal factory staff lies in the large mills which are situated in the neighbourhood of Calcutta. These mills, with a labour force of about 200,000 men, women, and children, are owned and managed by Europeans, and the local officers are practically unanimous in their opinion that the appointment of Indian factory inspectors would be likely to lead to friction with the European staff in the mills. It would probably not be impossible to find Indians who could be educated up to the necessary standard of professional skill in regard to such matters as machinery, ventilation, &c., but this, though essential, is not the only necessary qualification of a good inspector. An equally essential requirement is tact in getting abuses put right without friction, and this quality cannot be taught. The managers and assistants in the factories and mills are mostly Europeans whose education, apart from technical matters, is not of a high order. Such men are generally quick to resent what they consider to be interference, especially on the part of Indian officers. As long as the present conditions exist, the Governor in Council is clearly of opinion that only European factory inspectors should be employed in the area around Calcutta.

3. His Excellency in Council does not therefore propose at present to train Indians for employment as inspectors of factories, though where the number of factories managed by Indians is considerable, such a course might be advisable.

(v) *Letter from the Officiating Secretary to the Government of Bihar and Orissa, Financial and Municipal Departments, No. 2704-M., dated the 3rd August 1912. To the Secretary to the Government of Bengal, General Department.*

I am directed to acknowledge the receipt of Mr. Reid's Memorandum No. 3577, dated the 8th July 1912, and its enclosures, in which the opinion of this Government has been asked on the subject of the training of Indians for employment as factory inspectors.

2. In reply, I am to say that the matter hardly affects this province, as it will not possess a separate factory inspecting staff of its own. Should, however, a post of probationary inspector be created by the Government of Bengal, the Lieutenant-Governor in Council would have no objection to that officer being appointed occasionally to act as an inspector of factories.

(vi) *Letter from the Second Secretary to the Chief Commissioner of Assam, No. 2304-M., dated the 5th August 1912. To the Secretary to the Government of Bengal, General Department.*

I am directed to acknowledge the receipt of your Memorandum No. 3578, dated the 8th July 1912, asking for an expression of opinion on the suggestion made by the Secretary of State regarding the training of Indians for employment as factory inspectors, and to say that the Chief Commissioner supports the proposal.

APPENDIX XVIII.

(Referred to in paragraph 80,062, Evidence of Mr. R. P. Adams.)

NOTICE issued in July 1912 by the SECRETARY OF STATE FOR INDIA relating to VACANCIES in the FACTORY INSPECTION STAFF in INDIA.

The Secretary of State for India in Council invites applications from His Majesty's Inspectors of Factories (men) under the Home Office for the three appointments, now vacant, in the factory inspection staff in India, of which particulars are given below. Applications should in the first instance be addressed to the Under-Secretary of State, Home Office, through the Chief Inspector of Factories, and should be submitted by the 5th August at latest. The officers appointed will probably be required to leave for India at about the beginning of October.

One appointment as Inspector of Factories, Bombay Presidency.—Pay Rs. 400 a month, rising by annual increments of Rs. 30 to Rs. 900 a month (equivalent, at the existing rate of exchange, to about 320l.-24l.-720l. a year). The staff in the Bombay Presidency at present consists of a chief inspector, on Rs. 1,000-50-1,250, and four inspectors on Rs. 400-30-900. According to present arrangements, two inspectors are stationed in Bombay City and two at Ahmedabad. The two inspectors stationed in Bombay City receive a conveyance allowance of Rs. 40 a month each.

One appointment as Inspector of Factories, Burma.—Pay Rs. 400 a month, rising by annual increments of Rs. 30 to Rs. 1,000 a month (equivalent, as above, to 320l.-24l.-800l. a year). The officer appointed will for the present be sole Inspector of Factories for the whole of Burma. His headquarters will be at Rangoon. He will draw, in addition to the above pay, Burma allowance of Rs. 100 a month, subject to the condition that the continuance of this allowance will depend on any decision that may in future be arrived at on the question of Burma allowances in general.

One appointment as Inspector of Factories and Boilers in the Punjab.—Pay Rs. 400 a month, rising by annual increments of Rs. 30 to Rs. 1,000 a month (equivalent, as above, to 320l.-24l.-800l. a year). The officer appointed will for the present be both Inspector of Factories and Inspector of Boilers for the Punjab,

and also for the North-West Frontier Province and Ajmer-Merwara.

In addition to the rates of pay set forth above, inspectors are entitled to travelling allowances, under the conditions laid down in the Civil Service Regulations, in respect of journeys performed on duty; but they will not be entitled to house allowance, and in accordance with recent practice they will not be granted exchange compensation allowance. They will be required to pass such examinations in a vernacular language as the Local Government may prescribe.

The officers appointed will be on probation for one year. If their service in India is determined at the end of that year of probation on grounds other than misconduct they will be re-transferred to the Factory Department under the Home Office when a vacancy occurs, on the salary they were previously drawing, subject to the condition that they will enter at the bottom of the class to which they formerly belonged. If at the end of the year their appointments are confirmed, their service will become permanent and pensionable, the transfer to the Indian service being effected in accordance with the rules applicable to persons serving continuously and successively in two or more public offices. Service in India will, on confirmation, count for leave, under the European Services Leave Rules, and pension, with effect from the beginning of the probationary period.

Free first-class passages to India will be provided, and a return passage in the event of any appointment being terminated at the end of the probationary period, or in the event of the officer being compelled to quit the service in India at an earlier date owing to ill-health certified to the satisfaction of Government.

Candidates should indicate their order of preference for the three appointments, and should state whether they have any special qualifications for the appointment of inspectors of boilers.

APPENDIX XIX. (continued).

VI.—Punjab.

Pay.	Number of Employés in each Grade or Class.															
	Total.	Europeans.	Anglo-Indians.	Hindus (including Sikhs and Parsis).										Muhammadans.	Indian Christians.	Puddhists.
				Brahmans (including Shenvis).	Kshatryas.	Kaiyasthas (including Prabhus).	Baniyas and Vaisiyas.	Sudras.	Other Hindus (i.e., other than those shown in cols. 5 to 9).	Total Hindus (cols. 5 to 10).	Sikhs.	Parsis.	Total Hindus, Sikhs, and Parsis (cols. 11 to 13).			
1.	2.	3.	4.	5.	6.	7.	8.	9.	10.	11.	12.	13.	14.	15.	16.	17.
Rs. 400—500	1	1	—	—	—	—	—	—	—	—	—	—	—	—	—	—

VII.—Burma.

Rs. 700—800	1	1	—	—	—	—	—	—	—	—	—	—	—	—	—	—
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VIII.—The Central Provinces.

Rs. 300—400	1	1	—	—	—	—	—	—	—	—	—	—	—	—	—	—
400—500	1	—	1	—	—	—	—	—	—	—	—	—	—	—	—	—
500—500	1	—	1	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	3	1	2	—	—	—	—	—	—	—	—	—	—	—	—	—

APPENDIX XX.

OFFICIALS, NON-OFFICIALS, and ASSOCIATIONS who furnished WRITTEN EVIDENCE to the ROYAL COMMISSION in connection with their INQUIRY into the FACTORY and BOILER INSPECTION DEPARTMENTS, but who were not orally examined.

1. L. A. Parker, Esq. (Inspector of Factories and Boilers, United Provinces) on behalf of the members of the Factory and Boiler Inspection Department for the United Provinces.

2. Messrs. A. M. Thomson, C. T. Allen, J. Hutchison, and Robert Watson, Inspectors of Steam Boilers and Prime Movers, Burma.

3. The factory inspection staff of Bengal, Bihar and Orissa, and Assam.

4. The officers of the Boiler Inspection Service, Madras.

5. H. T. Walters, Esq., Inspector of Factories, Madras Presidency.

6. Messrs. E. R. Powell and E. G. Fido, Inspectors Factories and Steam Boilers, Central Provinces and Berar.

7. The Bombay Textile and Engineering Association, Bombay.

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APPENDIX TO THE REPORT
OF
THE COMMISSIONERS.

VOLUME XVIII.

MINUTES OF EVIDENCE

RELATING TO THE

GEOLOGICAL SURVEY OF INDIA
DEPARTMENT

Taken at Delhi, Calcutta, and London,

WITH

APPENDICES.

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