Accident Prevention and Factory Inspection

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The first item on the agenda of the Twelfth Session of the International Labour Conference, to be held in June 1929, is the prevention of industrial accidents. In accordance with the double-discussion procedure, the subject will this year be before the Conference for the second time. The Eleventh Session, basing its discussions on a detailed report on the law and practice in the matter[1]*, agreed upon the text of a questionnaire that the Governments were to be requested to answer; this year the Conference will have before it, for discussion and decision, a report on the answers of the Governments, and the proposed texts of two Recommendations and one Draft Convention. The present article does not deal with the whole of this material, as a general survey of the problem was published in the* Review *last year*[2]*; the author's purpose is to discuss the powers which, according to one of the proposed Recommendations, should be given to the factory inspectorate, as the official body responsible for supervising the enforcement of the safety laws and regulations, and to support the solution adopted in the proposed text for certain problems which are the subject of some difference of opinion.*

IT HAS become customary in recent years to divide industrial accidents, according to their causes, into those that can be completely prevented by technical methods, and those that can only be avoided by the worker's prudence. A third group of accidents, comprising those against which technical methods are still unavailing, and against which also the workman cannot protect himself by his behaviour, is numerically much smaller

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[1] INTERNATIONAL LABOUR OFFICE: *The Prevention of Industrial Accidents. Report and Draft Questionnaire.* International Labour Conference, Eleventh Session, Item II on the Agenda. Geneva, 1928. 318 pp.

[2] "The Prevention of Accidents in Industrial Undertakings", by Dr. F. RITZMANN, in *International Labour Review*, Vol. XVII, No. 3, March 1928, pp. 332-348.

than the other two, although it often includes especially serious cases. Experience shows that, roughly speaking, about one-fourth of all industrial accidents belong to the first group, and about three-fourths to the second. It should be emphasised that the distinction drawn here is not between machinery accidents and others. On the relation between these two classes of accidents, a relation that many writers confuse with the one under consideration, fairly exact but widely different statistics are available for separate industries. Not all machinery accidents can be prevented by safety devices ; but on the other hand many non-machinery accidents can be prevented by fireproof buildings, and by the proper construction, upkeep, and lighting of floors, passages, stairs, scaffolding, ladders, etc.

The distinction just drawn is of importance from the point of view of accident prevention, because the State, with its weapons of safety regulations and factory inspection, can in the main attack only the small fraction of accidents that are preventible by technical methods. Recognition of this fact led to the development of the extensive Safety First Movement, which aims at educating the worker to safe methods of behaviour. The movement calls upon employers and their representatives, and foremen in particular, to undertake the practical part of this education ; and an indispensable condition of success is the removal of all technical defects by the employer; for this is the only way that the worker can be made aware of the employer's willingness to carry out his share of the common task.

In view of the noteworthy success of this movement in large numbers of factories a certain scepticism as to the value of compulsory measures on the part of the State in the domain of accident prevention became widespread. In fact, during the Eleventh Session of the International Labour Conference, the view was put forward that the Conference, while fully acknowledging the results hitherto achieved by factory inspection, should confine itself to strong support of the Safety First Movement. This point of view, however, was not general ; the great majority of the Conference voted in favour of a questionnaire which would give the Governments an opportunity of expressing their views on the measures of State compulsion for the prevention of accidents that appear to them suitable for inclusion in an international Recommendation. The sense of the replies to the questionnaire was positive. The proposed Recommendation concerning the prevention of industrial accidents, to be discussed

by the Twelfth Session of the Conference, accordingly contains definite suggestions for increasing the efficacy of factory inspection in preventing accidents, in addition to recommending various ways in which the State may encourage voluntary accident prevention work. These suggestions extend and complete the Recommendation on factory inspection adopted by the Fifth Session of the Conference in 1923. The purpose of the following pages is to explain them a little more fully, and show the reasons for them.

As regards the statutory basis for State intervention in accident prevention work, it follows from the very nature of the subject, and it is confirmed by the experience of all industrial countries, that it is impossible to draw up precise regulations to fit every individual case that may arise in practice, and capable of only one interpretation. It is necessary to be satisfied with more or less general rules, which require a different interpretation for every individual case. This is so now, and owing to the constant changes in methods of production it will always be so, in spite of the fact that endeavours are perpetually being made to regulate as many matters as possible by Orders based on the general legislation and so limit the number of interpretations for individual cases. In these circumstances extraordinary importance attaches to the question who is to be competent to give the interpretation, or, in other words, who is to be empowered to declare, with the force of law, what must be done in order to comply with the general statutory regulations. This question has been answered in different ways in different industrial countries.

In most Anglo-Saxon and Latin countries the decision lies with the ordinary courts. We shall consider one example to see the effect of this procedure in a particular case.

The British Factory and Workshop Act lays down in section 10 (1) *(c)* that "all dangerous parts of the machinery and every part of the mill gearing must either be securely fenced, or be in such position or of such construction as to be equally safe to every person employed or working in the factory as it would be if it were securely fenced". If a factory inspector is of opinion that some part of the machinery of a factory does not satisfy this regulation and if he fails to obtain a satisfactory response from the employer by voluntary means, then he must prosecute him for breach of the law ; in accordance with the general legal principle of *in dubio pro reo,* the employer will be

given the benefit of any doubt there may be, and will not be convicted unless the offence is proved to the hilt. It was for this reason—to quote an instance—that the British factory inspectors could not use this regulation to insist upon the introduction of the cylindrical cutter-block for overhand planing machines, a device which has been on the market for over twenty years. The substitution of a cylindrical block for a square block was not, in fact, a matter of fencing, but involved altering the construction of the machine. In order to meet the case it was found necessary to issue a special Order, which appeared in 1922. The annual report of the British Chief Inspector of Factories and Workshops for 1927 mentions a similar case. The factory inspectors hold the view—which would doubtless be endorsed by experts from all over the world—that the cutters of metal-milling machines are "dangerous parts of machinery" within the meaning of the Factory Act, and it had always been their practice to require guards to be provided for these machines; but this procedure was stopped by the decision of a higher court on an appeal, indicating that the Factory Act did not apply to this case[1]. The Home Office has therefore drafted a special Code of regulations for horizontal milling machines, which will enable the necessary protective measures to be enforced. This Code will also contain regulations for the provision of efficient starting and stopping devices, good lighting, and non-slippery floors—all matters that have been recognised as necessary to ensure the safe working of milling machines, but that could not be enforced under the existing legislation. Nevertheless, it is not very likely that the courts will not in future have to decide what constitutes, in any particular case, efficient starting and stopping devices, good lighting, and non-slippery floors.

This state of affairs, which, as already pointed out, is met with in most Anglo-Saxon and Latin countries, seems to the present writer unsatisfactory, not only from the standpoint of accident prevention, which it greatly hampers, but also because it means that purely objective differences of opinion between employers and factory inspectors as to the necessity of specific technical measures can only be settled by a prosecution. The employer must appear in court as defendant, and the factory inspector as public prosecutor or as witness. This situation is

[1] *Annual Report of the Chief Inspector of Factories and Workshops for the Year 1927*, pp. 30-31.

not very pleasant for either party, and must lead to strained relations, little calculated to further the cause of accident prevention. This procedure is no doubt in accordance with the principle of the separation of powers as between the legislature, the executive, and the judiciary. But it is not difficult to find cases in which, without abandoning the principle, some deviation from it might be considered both right and expedient. For instance, there is the practice in the State of Pennsylvania, which goes to the length of issuing general regulations to deal with a single case, after the settlement of which they serve no further purpose. In the State of New York the procedure is rather different. The general regulations include very precise and exacting requirements, irrespective of whether all factories, in particular the older ones, are technically able to comply with them or not; but the executive authorities are empowered to grant exceptions, which they may make dependent on the fulfilment of certain conditions. The authorities can thus do what is necessary and possible in each individual case without any fear of being overruled by the Courts; for if an employer proved obstinate they would fall back on the bare wording of the law, the non-observance of which would, in any circumstances, be punished by the Courts.

Ordinarily the considerations that led these, the two greatest industrial States of the Union, to adopt this somewhat artificial procedure would seem to be of universal validity. Technical measures for the protection of the workers can be applied in a really progressive spirit only if they are based on individual treatment of each separate case. So long as employers are human beings, there will always be a certain number who turn a deaf ear to good advice and friendly warning, and must therefore be compelled by the State to apply the general safety regulations in force to their own factories. The means to this end is the power to issue orders having the force of law in individual cases.

It is primarily the States of Central Europe, from Holland and Scandinavia down to Italy, but also many States of Eastern Europe, that have incorporated in their protective labour legislation this principle of issuing orders in individual cases. The power to make orders is, as a rule, delegated to the factory inspectors, but occasionally also to the district police authorities acting under their advice. It is clear that the situation here is quite different from that described above. If the employer and the factory inspector are unable to agree whether a given technical

measure for the prevention of accidents is supported by the general statutory regulations, the inspector gives a provisional decision by ordering the measure to be carried out. The employer may submit to this decision; he must then carry out the measure in question, and will be liable to a penalty for non-observance of an order having the force of law if he fails to do so. The court before which the case is brought has no concern with the substance of the infringed order. But this does not at all mean that the factory inspector is, in certain circumstances, in a position arbitrarily to issue unnecessary or unsuitable orders; for the employer naturally has the right of appealing to a higher authority than the factory inspector. Further, as is shown beyond all doubt by the factory inspection reports of a large number of countries, he has every guarantee that his appeal will be carefully and competently examined; while on the other hand, if the higher authority endorses the factory inspector's order, there is also every guarantee that this is both justifiable and practicable.

In many countries, however, in which the mechanism of State authorities is giving ground before autonomous institutions and the principle of self-help, there is a certain impatience with such official intervention even when no actual fault can be found with it. It is therefore well worth while to consider forms of procedure for dealing with technical safety measures that are free from this objection. An interesting example is the Indian solution of the problem, embodied in the Indian Factories Act of 1911 as amended to 1 June 1926. Under this Act the appellate authority may, and if so requested by the appellant must, hear the appeal with the aid of two assessors, one of them appointed by the authority itself, and the other by a body legally representing the interest of the industry concerned. Here, then, the administrative decision takes the form of the award of an arbitration court. It will be useful to look a little more closely into this conception, which took practical shape in the British Factory Act much earlier and is still found there in one particular case. Section 14 of the Act lays down that in case of a difference of opinion between the owner of a factory or workshop and the County Council as to the provisions of means of escape in case of fire, the difference shall, on the application of either party, be referred to arbitration, and the award shall be binding on both parties. There are also detailed rules for the composition of the arbitration board. Each party appoints one member, and

the two members choose a chairman, who, however, only intervenes if they cannot reach agreement by themselves.

An arrangement of this kind preserves intact the principle of the separation of powers ; the only peculiarity is that an expert arbitration board takes the place of the ordinary court. But the employer and the factory inspector appear before the board on an equal footing, and it is solely the greater technical knowledge of one or other that decides whose view shall ultimately prevail. It must not be overlooked that this procedure, when applied to accident prevention, makes great demands on the technical qualifications of the factory inspectors. Ultimately, however, that would be a reason for recommending it, as in fact none but the best abilities are good enough to deal with technical safety measures.

The power to give orders in individual cases is the means which, according to the proposed Recommendation to be submitted to the Conference, should be at the disposal of factory inspectors for the removal of defects observed during visits of inspection. But the saying so often quoted in connection with the prevention of accidents, that "prevention is better than cure", also holds for factory inspectors.

Now the moment when plans are being prepared for the construction or the alteration of a factory is the point at which a large number of industrial accident risks can be eliminated in advance by following expert advice, in most cases almost without expense. In many countries the factory inspectors accordingly see all plans for the construction or alteration of industrial buildings in their district. They examine these plans from the standpoint of the safety regulations, often in detailed discussion with the builders, and indicate the requirements to be taken into account in the construction. It is obvious, and it is confirmed by the factory inspection reports of Germany, the Netherlands, and other countries, that in this way a steady and considerable improvement in the standard of industrial safety is achieved, so far as this depends upon the nature of the building and its fixtures. It was therefore natural to recommend, as is done in the proposed Recommendation, that this procedure should be generally adopted. A number of Governments, it is true, expressed the opinion, in their answers to this part of the questionnaire, that factory inspectors should give advice only to employers who ask for it. In the present writer's opinion this is not enough. What is here in question is an accident preven-

tion measure that is so effective, and at the same time so extremely reasonable, that its application should not be made dependent on the often inadequate judgment of the intending builder.

The reader may perhaps wonder why this article is called "Accident Prevention and Factory Inspection", and also why it has so far dealt only with factory inspection. The reason is that in the great majority of cases the factory inspectorate is the organ used by the State to carrry out its tasks in the domain of accident prevention. But there are exceptions: in Switzerland, for example, it is the National Accident Insurance Office, and in Italy, the National Association for the Prevention of Industrial Accidents (an employer's association), that is the official authority for this purpose. It is needless to say that, in these cases, the powers recommended for factory inspectors would be handed over to these bodies.

It is an encouraging fact that the opinions expressed by the Eleventh Session of the Conference, and the answers of the Governments to the questionnaire on the prevention of accidents, have made it possible to submit these proposals on the powers of factory inspectors to the Twelfth Session; and it is to be hoped that the final decisions of the Conference will help factory inspectorates throughout the world to obtain the best weapons for their difficult and important campaign against industrial accidents.