

recommenda-tion of himself or from a reference from some one who may not have had the interest to satisfy himself as to whether or not he had had those little hints to make him fully qualified for immediate and general service. Officials should, before placing in interest him in the particular machine he has in charge, as to its design in detail, with full instructions as to their various uses in a mechanical way—its possible weaknesses or defects—when trouble is likely to occur and what to do in case certain things happen—how to experiment in the saving of oil—the best and the easiest way to prepare and place packing in position and the many things which make for improvement, reduce expense and increase efficiency. I daresay most of just such helpful instruction is never thought of. He, the attendant, is supposed to know, and as has been mentioned, it is taken for granted he does.

On the other hand, with men or boys just starting in this line of work, is it not often the custom that it is considered better for him to learn this thing for himself? At least it has been my experience that this practice prevails to a great degree with mechanical men. It is a sort of habit with them. Many no doubt have had like experience when starting out, and think others should, like themselves, learn in the hard school of experience which, in this as in many occupations, has been a most uncharitable one—the kindly word of advice—the helpful hint lacking. As a result, wrong methods may be employed and ideas formed and fixed which are more difficult to overcome later than if they had never been acquired. Cautions as to safety for self and others should be gone into carefully. Cautions iterated and reiterated repeatedly finally become fixed and become part of the usual routine of work.

Boys. We will include under this heading—drivers, bottomers, brakeholders, landing tenders and others on whom we are to a great extent dependent to "get out" material "won." Ishmaelites they are, with every man's hand against them and their hands and feet and tongues against every man individually and collectively. While they usually take the easiest way for themselves (and he is a poor boy indeed who does not) yet at the same time there may be ways pointed out to them which, while still easy, may be improved upon and expedite matters materially. They are at a receptive age and are to be the men of tomorrow. Instruction for this reason, if for no other, should start with his first occupation and be continued in every change he makes. I have had too many answers made to me by officials when something went wrong or a boy was hurt through carelessness or ignorance to the effect that he was supposed to know; yet when pressed, many times they would have to admit that explicit instructions had not been given—that knowledge of dangers or of the care necessary to perform certain duties had been taken for granted. There are no two places where boys are usually employed exactly alike. Those whose duty it is to place them in a new occupation or in the same occupation at a different landing or balance or brake or in any change which may be desired or necessitated should take pains to impart full instructions with respect to that particular place and its peculiarities. Officials whose duty it is to allot work to boys should make it their business to learn these things in the district they have in charge. Again, I am not of those who think it impossible to interest boys in their work. It will no doubt falter at times and the game seem not worth the candle; but sooner or later instruction bears fruit and when it does, it makes for all that is good and lasting.

More patience may be required; but I am inclined to think that lack of patience lies at the root of the evil of indifference on the part of workmen and boys alike. It will be noted that no salient points for suggested lines of instruction with respect to boys and their usual occupations are mentioned—they are so varied—and I may say I do not feel competent to "rush in where signals fear to tread" in advising what should be taught a boy in a mine. There are those who can, and get results.

OFFICIALS. No doubt this phase of the question should have received first consideration; but on second thought I believe this to be the proper place. Having qualified themselves by practical work and special preparation to pass examinations should not mean that they are no longer to seek instruction, court criticism, profit by suggestions or take advice from any one. We all know that with the wise man the more we know the less we think we know. Taking their opportunities and advantages, they should more readily digest and profit from their own experience and that to be gleaned from others along the lines we have been considering in this paper. And it should be their duty and pleasure to lend the helping hand to others who struggling along the road of misdirected efforts toward the goal of success in the work in which they are engaged. Learn from others; teach others; and in teaching them revive things probably forgotten or laid aside, thereby fixing more firmly in mind those things which make for self-improvement, advancement and increased earning power.

SURFACE. Systematic organization and attention to what might be termed minor details in all classes of work incidental to Colliery requirements would no doubt lead to surprising results if compared with the ordinary day to day slipshod methods which are in general practice. The average Colliery Officials classifies his workmen as unskilled labour and lets it go at that instead of trying to make them "skilled" unskilled labourers. I am satisfied that ordinarily bosses do not direct labour nearly as much as they should. A man may be given a certain thing to do and that ends direction as far as instruction goes. In order to obtain full returns from workmen, they must either be led or driven, or both. The speed or methods of the poorest is that of a gang; so that education and direction should be to bring the standard to the basis of the best in any given occupation. This is apparent in work and methods of modern contractors as compared with company work. A greater number of gang bosses are no doubt employed; but experience has proven that it pays to have closer attention given the individual as to application and method. I do not wish to be understood as advocating overworking any employee; but rather that work for him may be made easier yet better results be obtained by systematic direction under close personal supervision. When to work and how to work—that is the whole story.

I am inclined to think that much of ordinary comments of bosses are complaints as to soldiering or stupidity on the part of the workmen instead of explicit instructions as to easier and better methods. I am sure we can all back and apply this to ourselves and to those for whom we work—found fault with, but without having these things made clear as to why fault was found or where connection might be made and the same mistakes avoided.

I would have the best qualified men take up the education of men employed in the various occupations as suggested for those underground, and by instruction

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