

kind where they would have to wear overalls and jacket, in preference to entering a store to become even an errand boy or shipping clerk, possibly in the future a salesman, entry clerk or book-keeper. Yet in the business world there is no demand so pressing as for good men to take the lead in enterprises that require some technical knowledge, men trained in the natural sciences, in mechanical operations, men who can draft a piece of machinery or wood work, or make a skilful design. Even without the vast number of art, technical and trade schools which Europe has, see what our workmen, with no such aids have accomplished. Already our fame is world-wide for the production of labor-saving machines and exercise of inventive skill. Where should we not stand if we made broad provisions for Industrial training. It seems as if no man of broad views, who has looked into the matter fairly, can question the fact that some provision should be immediately made for Industrial Education. What, however, is the most practical thing we can do at once under existing circumstances? As our schools are now constituted, will it do to establish school shops or trade schools, even in the larger cities, at public expense? Are the people ready for it? Will they bear the increased cost of education? How shall we modify our present course of study to provide for this? Shall we rest awhile on the Normal School and County Supervision question to agitate this new one? These and many more questions naturally arise and must be met. I am happy to say that at the State University in Columbus, and under Prof. Robinson, a grand beginning has been made. A fine building has been erected which is well supplied with appliances for working in wood and metal. There are branches with carpenter and machinist's tools, forges, lathes, drills, etc. The students, in this department, are very enthusiastic

in their work. Similar schools or departments have been established in many states. The Rensselaer Polytechnic Institute at Troy, N. Y., the Institute of Technology in Boston, and the Worcester Free Industrial School at Worcester, Mass., are old and well established institutions. However, a much more general Industrial Education is needed. I believe, for the present, we have got to depend largely on these technical schools, supported either as our University is supported, or by private funds. Something more might be done which would do much towards making it more general, if in one or more of the larger cities of the state, we might do as they have done in Boston, that is by soliciting private funds establish a school shop as an experiment, and to educate public opinion. Another thing which is practicable and of the utmost importance, and which can be done at once in every city and town in the state if superintendents will undertake it, is the introduction of Industrial drawing. A broad system of Industrial Drawing, like the Massachusetts system, will train the eye and hand; no one will ever be a good mechanic without these two elements; it will enable the workman to read and make working-scale drawings of the article to be constructed; to make his mistakes on paper instead of in the more costly material; he will have a practical knowledge of design and its principles, and be able to design anything in metal, wood, stone, printed or textile fabrics, and in any style of decoration. He can put upon paper any form that he sees or imagines. He will be able to draw the development of a hollow cylinder cut at any angle, as for a sheet-iron elbow, or construct the curve of intersection of a cylinder with a sphere. The Industrial school was never heard of that did not make drawing a part of its course or demand it as a condition of admission. It is as essential there as reading or writing in