

systems group to devise new or improved systems and assemblies of equipment; and of the engineering inspection group to insure by studies and development of inspection methods that the manufactured embodiment of the work of the other three groups, as finally delivered or installed for the telephone customers of the Western Electric Company, shall not have lost between its conception and its commercial utilization any salient contribution of these other groups.

This grouping of the work of some two thousand engineers and scientists into the four divisions just mentioned and attaching a name to each can give but an imperfect idea of the varied scope and importance of the activities. To attempt much more would require a lengthy exposition. To attempt by illustration to explain more fully the work included under these four headings might give undue prominence to the types of work in which some scores of engineers were engaged at the expense of the hundreds engaged in related and equally important work. Illustrations may be ventured, but these should be considered for the point of view and method of attacking problems. In each only a single high point can be disclosed in the present condensed exposition.

ILLUSTRATIONS OF PROBLEMS AND METHODS

Consider, for example, the method of those members of the inspection engineering department who deal with such a piece of apparatus as the carbon button transmitter. Of this, some hundreds of thousands are manufactured each year. If the specifications, manufacturing tolerances and the like should be so placed as to admit to commercial service imperfect instruments even to a very small percentage of the total number manufactured, the damage to the telephone companies would be disproportionately large. On the other hand, if these limits are set too conservatively and result in the rejection of an appreciable percentage of the manufactured product,