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POWER

PHILIP W. SWAIN, EDITOR • SEPTEMBER 1948 • ESTABLISHED IN 1882

'HANDBOOK ENGINEER'

SOME FOLKS CLAIM that an engineer doesn't need to know much, if he "knows where to turn for information when he needs it." Dangerous half-truth!

Such a man is a "handbook engineer." He keeps his brains on a shelf—very good brains, but attached to the owner by a defective system of remote control. He can generally find you an answer in the book, but it's likely to be the wrong answer, or not the best, because it takes knowledge to use a book of knowledge wisely.

These comments are no reflection on handbooks, and naturally not on our own product, the engineering magazine. Pound for pound, the engineer has no tools more valuable than the systematically recorded ideas, experience and thinking of other men. We believe in engineering handbooks, in multiplication tables, in dictionaries and encyclopedias, in law and medical libraries, in cook books.

What we don't believe is that a good librarian with all these books automatically becomes a good engineer, accountant, lawyer, doctor or cook. These professionals differ from the librarian in that they have a lot of specialized knowledge in the head, as well as in the book.

To be worth his salt every professional man must have a lot of miscellaneous knowledge always on tap under his hat.

There are two reasons why this is so. One is the matter of time economy. If the doctor must turn to his shelf every time he prescribes for a cold, the author to his dictionary every time he

writes a sentence, or the engineer to his handbook every time he wants to figure the weight of a tankful of water, he won't get much done. Every working professional must keep a lot of facts in the back of his head for everyday use.

But even if the well-stocked head were not quicker than the page-turning thumb, there would still be a mighty good reason why a good library, used for reference only, could never make a good engineer. The good engineer must have perspective. He must be able to tie one fact to others, to relate the parts to the whole, to compare one way of doing a job with another, to see the whole effect.

He can no more do this by looking up a few disjointed facts than a man without literary training can write a good book out of the dictionary. All the words are there, but he won't know how to hook them together.

The good engineer must build the framework of his engineering skill into his head by regular reading and long experience. Then he can safely use reference study to round out his equipment to meet some special problem.

You can generally lean on the judgment of the engineer who comes pretty close to the right answer without referring to any book, but who has also the humility to turn to the printed page for checking, amplification and special information, and has the skill to use this resource effectively—in short, the man who has the right handbooks and is not ashamed to use them freely, but is not a "handbook engineer."