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American Institute of Accountants

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# The JOURNAL of ACCOUNTANCY 

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Vol. $54 \quad$ October, $1932 \quad$ No. 4

## EDITORIAL

## Specification and Blue Print

It is generally possible for a student and lover of accountancy to regard the progress of his profession with a considerable amount of equanimity and gratification. Nearly all the time there is a forward and upward movement, and anyone who looks back over even a few years will be able to see indisputable proof of the improvement which is taking place. But once in a while there is something that is both painful and discouraging. Such an instance arose two or three months ago in an important county in an important state. It seemed to the authorities of that county to be desirable to have a comprehensive survey and audit of the county's finances, and, in order perhaps to conform to some statute unknown to most of us, it was resolved that there should be an advertisement of what the county required and an invitation to make bids for the work. Somebody in the county offices was imbued with a notion that there should be nothing ambiguous in the arrangements and he devised a scheme of specifications that is, it seems, without parallel in the history of accounting. The document describing the matter consists of sixteen typewritten pages. The history of the authorization for the audit is given, then follows a general description of the kind of audit required, and after that we come to the minute details. Perhaps the most interesting and curious of the specifications is this:
"As elsewhere herein stated, these specifications shall not be construed as limiting the duty of the auditor and the auditor shall do all things necessary to
be done in order to make a thorough audit of the finances of the county; if, however, the auditor finds that work should be performed to which these specifications can not be applied, then it shall be his duty to call that fact to the attention of the commissioners' court, and the court shall have the right to authorize the performance by the auditor of such additional work. If the commissioners' court decides that such additional work is not necessary, or will not be productive of results, the auditor shall have the right to include in his report the statement of the fact that he called attention of the commissioners' court to such additional work. All work done by the auditor, whether specifically set out in these specifications or not, and all additional work done by the auditor, if any, which may be hereafter authorized by the commissioners' court shall be deemed to have been included in the 'estimated' and 'maximum' costs stated in the auditor's bid; and when the 'estimated' and/or 'maximum' cost shall have been reached, even though a part of that cost be for the doing of additional work dealt with in this paragraph, the auditor shall thereafter be paid at the reduced per diem rates herein elsewhere provided for any work in excess of the auditor's 'estimated' and 'maximum' cost to the county."

In other words it seems that the auditor may do anything he wants to do in order to complete his task, but he must not be paid more than a fraction of his stipulated charges.

## Twenty Casualties Reported

The advertisement is so comprehensive that it does not seem as though there could be very much left for the accountant to suggest after he had finished all the specified work. The specifications even go so far as to define accountants in various categories and the number of hours in the day, and here we find a provision similar to that which has been quoted:
> " The bid shall state the 'estimated cost' to the county of the audit; and shall provide that when this 'estimated cost' shall have been reached the per diem rates applicable for any and all work thereafter shall be thirty per cent. less than the per diem rates specified in the bid.
> "A second limit to the cost of the audit should be stated in the bid, to be known as the 'maximum cost'; and the bid shall provide that when this 'maximum cost' shall have been reached the per diem rates applicable for any and all work thereafter shall be fifty per cent. less than the per diem rates specified in the bid."

> If there were some other limit above the so-called maximum the accountant might be called upon to pay the county something for the privilege of carrying on. The whole document is one that is repugnant to the professional sense. Probably it was prepared by someone who did not even know that accountancy is a profession. And now, as the saddest item in the whole history, it remains to be recorded that advice has been received that approximately twenty firms of accountants made bids for this work. Such things as these are discouraging it must be admitted, but if all accountants would refrain from participation in any such venture the whole scheme of bidding for professional work in ac-
countancy would cease. We have said this many times before, but the present deplorable incident calls for a repetition of the assertion.

## Where Bidding Leads

There is, however, this much more to be said, that the response to the call for bids produced some eloquent results. In spite of the precise and meticulous specifications provided by the county there was a difference between the highest and the lowest of more than 200 per cent. of the latter. The minimum fee in the highest bid was $\$ 75,000$, and the minimum fee in the lowest bid was $\$ 24,900$. The maximum fee in the highest bid was $\$ 100,000$ and the maximum in the lowest was $\$ 28,800$. Obviously, therefore, those who bid had no notion at all of what they were doing, or at least some of them must have had no notion, because it is inconceivable that there could be so wide a spread between the fees demanded unless at least one group of bidders was entirely misled as to the nature of the work. We can not remember a more impressive demonstration of the utter fallacy of bidding for professional work than this case which is now before us. If there had been a difference of five or ten per cent. between the fees demanded by different firms one would think that the bidding was animated by at least some fair idea of the work to be done. In the present case, however, there is no possibility of such an interpretation. The whole thing looks like guessing, and guessing may become an expensive pastime. On the other hand if there had been no bid the county would have been compelled to engage an accountant upon a decent and professional basis and probably would have paid less in the long run than it will have to pay under the plan which it chose to adopt.

## The Bethlehem-Youngstown Appeal

In the February, 1931, number of The Journal of Accountancy we discussed the decision of the court of common pleas of Mahoning county, Ohio, granting an injunction against the proposed merger of the Bethlehem Steel Corporation and the Youngstown Sheet \& Tube Company. It will be recalled that while an appeal was pending from this decision the Bethlehem corporation decided not to proceed with the merger, and the main issue involved in the case thereupon became moot. However, efforts of the plaintiffs to collect costs from the Youngstown company led to further proceedings in the court of appeals for the
seventh district of Ohio; and that court has now handed down a unanimous decision which, in effect, reverses that of the lower court. The court of appeals found that the merger proceedings were properly carried through, that the proxies attacked by the plaintiffs were valid and the vote cast was properly counted by the inspectors of election, and that there was nothing to prove that "there was any fraud practised by the directors or anyone else favorable to the merger in this case which tended fraudulently to influence the stockholders to vote in favor of the merger," and concluded that "the plaintiffs had no right to maintain an action enjoining the completion of this sale." Incidentally, the court adopted a view of the duty of directors entirely different from that of the court below. In the course of its decision the appellate court said: "It is further urged that Youngstown's board of directors did not give the proposition to sell all of the property of Youngstown the consideration that they should have given it. [This was substantially the view of the court below.] It is true that the board did not go into the auditors' figures, but they would not have understood them, perhaps, if they had . . ."

## The Part Played by Accountants

In our comment of February, 1931, we referred to language used by the trial judge in relation to three eminent accounting firms which had played a minor part in the trial. It is particularly gratifying to note that the appellate court differed from the court below on this question, also, and adopted a view substantially in accord with that expressed in our editorial. Inasmuch as we then quoted the language of the trial court, it is only just to quote the following paragraph from the decision of the court of appeals:
"The next error complained of is that Youngstown and Bethlehem secured three public accountants to make an examination of the proceedings of Price, Waterhouse \& Co., and determine whether they were correct or not, that the report sent out deceived the stockholders, that it purported to be a complete audit of these two companies, and finding that the result reached by Price, Waterhouse \& Company was not unfavorable to Youngstown. We do not think that this is a fair criticism of this report. The second paragraph of the report sets out what these companies considered in arriving at the conclusion that they did. The report of the three accountants did not claim that they had made an independent audit of the books of Youngstown and Bethlehem.

These accountants were employed after Mr. Eaton had made charges that the audit of Ernst \& Ernst showed serious mistakes in the work of Price, Waterhouse \& Co. . . ."

The opinion then goes on to discuss the campaign material that was issued, and concludes: "We do not think we need go further in referring to these claims of fraud than to say that we are unable to find that the members of the board or others who were in favor of the merger overstepped their rights as stockholders."

## A Lawyer Who Would Advertise

A highly esteemed accountant, in a western city, sends us the text of an article written by a lawyer, in which the author attempts to resuscitate the subject of advertising by professional men. He argues that the present condition of the professions justifies a departure from the tradition which makes advertising, in the case of professions, taboo. As far as we can follow the argument of this author, it is to the effect that the people who.originally opposed and continue to oppose professional advertising are really those who have achieved success and to whom practice naturally gravitates by force of example. He maintains that the young lawyer, or other professional man, should be permitted to tell the world that he is ready to do the world's work. From this point he proceeds to contend that the public should be informed. Apparently not to advertise is to rob the public of information to which it is entitled. This is a threadbare subject and it should not be necessary, one would think, to reply at any great length, but as our correspondent believes the matter to be of importance it may be permissible to discuss the views of a man who believes that professions should advertise, within certain limits-but the limits are not set. Suppose, for the sake of argument, that the lawyer's thesis be accepted and it be admitted that a professional man may advertise his professional services. Of course, we do not admit anything of the kind, but it is sometimes interesting to deal in considerations of pure imagination. Suppose a lawyer may advertise, what is he to say? How is he to express his advertisement? It would be very instructive to learn from the author of this sapient article what a lawyer has that he can advertise. He may have some secondhand furniture or perhaps an automobile which he no longer cherishes. He may advertise these things and say that they are whatever they are, but that is not professional advertising.

Presumably, he may advertise his professional services. Well, how? He certainly can not permit himself to compare his own abilities with those of his competitors-in this case "competitors" seems to be the right word. If he publishes what is called a card, what possible good can it accomplish? If he describes himself as proficient in special fields of legal work what can he gain? Would anyone for a moment be attracted by any kind of advertisement which could be prepared descriptive of the abilities and facilities of the lawyer? If the answer is No in the case of the law, how much more indicative of the fallacy of professional advertising is the argument when it is carried over into the profession of medicine and surgery.

> What Shall the Advertiser Say?

Some of these very vocal proponents of professional advertisement are overlooking, as they have always overlooked, the obvious question of how to advertise if advertising be allowed. Perhaps our correspondent will ask the author of the article which he sends us what he considers to be a good, productive and ethical advertisement for a lawyer. He may then go a little further and ask a physician to write an advertisement of his practice and capabilities. We know what the accountant who advertises will say, because he has already said it on many pages, for the expenditure of many dollars. If the other professions can not think of any better advertising than accountants have so far devised they would be wise to pause before embarking upon a campaign of advertisement. Some accountants have devoted a great deal of attention to the production of what they claim is educational advertisement. Most of it is utter rubbish, and the effect of it all, so far as we have been able to ascertain, is injurious to the profession as a whole. There might be, perhaps, less condemnation of an accountant who advertised than of a lawyer or a physician who fell into evil ways of that sort, because the accountant is more recently admitted to the ranks of the professions and he might be expected to carry with him a little taint of his unprofessional and unregenerate days. And yet the truth of the matter is that accountants, members of this newest of important professions, have been the most rigid in some ways in their codes of ethics. In the one subject of advertisement there is still a slight difference of opinion between a small minority which favors advertising and the vast majority which damns
it. Among the members of the bar there should be no such lack of unanimity. At any rate, let the lawyer who believes that lawyers should advertise write an advertisement and send it to us. We promise to publish it without charge, but of course we should be compelled to omit the name of the advertiser because it would be quite reprehensible to assist anyone down hill.

## The Young Practitioner Would be OutAdvertised

There is another plea made by the author of the article, namely, that the young lawyer and, of course, by inference all young professional men should be allowed to advertise so that they may force themselves into the forefront of fame and be given an equal opportunity with men who have established themselves by years of experience and high repute. Well, if there be any force at all in this we can not discover it. It has been explained time and time again that if all lawyers were permitted to advertise there would doubtless arise a competition in advertising. Even those who deplored the practice might find themselves compelled to participate. Now if that were so, the chance of the wee man to make himself heard above the tumult would be small indeed. The large firm could make a great deal more noise over a wider area than the little fellow who had few resources; and the outcome would be an even greater disparity between the opportunities of the known and the unknown practitioners. As a matter of common sense it seems evident to us that the restrictions against advertising by professional men are chiefly helpful to those members of the professions who have not yet reached success. When there is a general abstention from advertising the well known and prosperous firm or individual practitioner is precluded from announcing the fact of success, which is really about the only thing one could advertise, and, so far as the public seeking the services of a professional man are concerned, the little fellow has a much better chance than he would have if there were promiscuous ballyhoo by a whole profession. These are not idle theories. They are hard truths. The people who urge the abrogation of ethical rules against advertisement are generally of two classes. The first and most important is composed of people who have advertising space to sell, and the second consists of a disappointed group of men who have not been able to arrive. They, searching about for some method of improving their position, are driven to the
forlorn hope that in advertising lies the way to accomplishment. These are days when straw votes and informal ballots are much in the public mind. They are good things, in a way. It might be interesting for the members of the legal profession to be invited to cast a ballot on the proposal that lawyers be permitted to advertise. Similar questionnaires might be sent to physicians, accountants, architects and members of all other professions. It is, of course, absurd to predict what any ballot would reveal, but we are firmly convinced that there is not a worthy profession in the land which would not vote down by an overwhelming majority any proposal to place it on the commercial plane which advertising connotes. And careful analysts of the matter would doubtless find that there was no sound reason in favor of so retrogressive a suggestion.

> Why Not Make It Unanimous?

As an illustration of the joys which accompany the editorial function, but, more important yet, as an example of a perfectly logical pursuit of an argument, it is a pleasure to present the following letters which have passed between a correspondent whose name is omitted for reasons which the correspondent explains and the editor of The Journal of Accountancy. The question of bidding for professional work is one that has been damned times out of number in these pages. There is nothing new that we can say on the subject, but the correspondent who prefers anonymity for the "honor of his ancestors" has said something which is original:

[^2]acquaint the receiver with the exact status of the defunct company. I wonder if he will also advertise for bids on the receiver and the attorney for the receiver, and, on that same basis, why shouldn't the people advertise for bids on the district attorney and the district judge?

Possibly it might be a good idea to carry the idea a little further and advertise for bids for governor.

The next time I approach the matrimonial altar, or, in order not to create any misunderstanding at home, maybe I should say, if I have it to do over again I am certainly going to advertise for bids among the preachers, and the next time I send the kids to bed for making pigs of themselves at the dinner table, and have the last four pork chops all to myself, I am going to advertise for bids among the medical profession of the community. When I near the end of my allotted three score years and ten the undertakers (I beg your pardon, I meant morticians) are going to be asked to submit bids, in order that I may rest in peace, with the assurance that I have not been made the victim of some unscrupulous chap who thought he had the field all to himself and charged accordingly. And when I meet St. Peter at the gate I am going to say to him, "Now look here, I have taken due precaution with my worldly affairs all my life and my favors have gone to the lowest bidder always. Now, if you want me for a tenant you're going to have to submit a sealed bid to be opened on the 25 th of next month or I'll go to . . ." Oh, well, that's a long way ahead, and maybe I should take a little time.

## To which the editor replied:

When I returned to the office this morning I found your letter of July 20th, and I think I should like to publish a part of it in The Journal of Accountancy.

Do you wish your name to appear, or is Modesty standing in the way?

## The correspondent's second letter follows:

If you wish to publish any part of my letter of July 20th it will probably reflect less discredit on my ancestors if my name does not appear.

The district judge mentioned had his plans rudely interrupted before the day set for opening the bids for the audit. He made the mistake of appointing a business man as receiver after his first appointee, a lawyer, had been ousted by demand of the depositors' committee. The new receiver promptly informed said judge that he preferred to choose his own auditor, and so the bids were never opened. And there we lost a job, because certainly no learned judge could have resisted our offer to do a perfectly beautiful job of artistic auditing for 10 per cent. less than the next lowest bidder.

This bidding proposition is a sure thing if only you know how to go at it (and the biddee is willing to take all the chances in the world).

## What When the Horse Won't Drink?

Following publication of editorial comment in the August issue of The Journal of Accountancy several letters were received from readers drawing attention to what they believed to be the ignorance of bankers with reference to the pamphlet Verification of Financial Statements. One correspondent draws attention to the monthly Bulletin of the Robert Morris Associates for November, 1930, reporting a meeting of the committee on coöperation with public accountants, in which it was revealed that some bankers at least had no acquaintance at all with this highly important document. Another correspondent
writes us further and reports that he has made a somewhat thorough search. In his letter he says:
"For your information I have as a graduate student at the university of conducted an inquiry into the matter of uniform balance-sheets. Particular reference was made to the study of the adoption of the uniform balancesheet as recommended in the Bulletin. As your subscriber is probably aware the first Bulletin was issued in 1917, the 1929 issue having been enlarged and changed in some particulars.
"In undertaking this work I assembled research material from the following sources:
"1. Credit forms of 500 banks well distributed as to locality, size and type of banking.
" 2 . Annual reports from all companies listed in the Dow Jones industrial, rail and utility averages.
"The credit forms were carefully studied as to form and information required. The reports were examined for form and information submitted.
"As a result of this study the following conclusions were made:
" 1 . Of the 500 bank credit forms examined not one was in the form suggested by the federal reserve board. Not one of the federal reserve banks had adopted the suggestion of the board. Only 11 of the forms were uniform and these were from controlled or chain banks. (Even these did not conform to the Bulletin recommendations.)
" 2 . Of the annual reports the railroads were, by force of law, compelled to use the form prescribed by the interstate commerce commission. The industrials had their own particular forms. A few of these bore faint resemblance to the recommended form. The utilities, particularly the holding companies, had their own particular forms.
"The results were so surprising that I felt there must be a substantial reason for the non-acceptance of the recommendations of the board by the banks, the companies and the accountants.
"I therefore began to question the above groups and found that unfortunately they exhibited a surprising lack of knowledge regarding the uniform form. (This, of course, was not true of the accountants.) Upon further examination I found that many companies had persisted in using a form that had been adopted years ago in making their annual reports to stockholders and that the companies did not desire to make a change. The accountants were therefore in the position of being forced to make the same form of statement year after year. Now as to the banks. After a careful study of the credit forms and the credit systems of the 500 banks I believe that I can confidently state that most bank credit forms like Topsy 'just grew up'. Similarity in forms of banks in the same localities leads me to conclude that after a credit department was instituted in one institution another following would ask about the forms the first bank was using and that those forms would be adopted by the bank seeking the information. There are always exceptions to every conclusion that is broad in nature. Many banks are now thoroughly interested in the form of the credit report and necessity is again mothering an improvement.
"I was greatly surprised that the federal reserve banks had not followed the recommendations of the federal reserve board. Upon contact with officers of the member banks I found that they considered the reserve bank as performing a discount function entirely and that they looked more to the bank seeking the rediscount than to the stability of the firm to which credit had been extended. Personally I believe that the federal reserve board has set the example of a uniform balance-sheet. The reserve banks have not followed the example. If they did they could exert a powerful force toward uniformity of reports submitted to their member banks.
"The thought has been suggested that uniformity stifles initiative. I disagree with this view. Uniformity tends to set a lower standard only when
laziness enters. Uniformity does establish a minimum standard below which none can go. Initiative will tend to raise the standard so set.
"I believe that the results of the survey indicate that an intensive educational campaign could and should be conducted by organized accounting groups among the bankers and their borrowers. The accountants are well equipped both as to education, training and judgment to lead the way."

## However, He Can be Led to Water

It would be unfortunate indeed if the conditions revealed by our correspondents were prevalent throughout the country. It seems incredible that a document recommended strongly by the federal reserve board, published by that arm of the government, republished by the Robert Morris Associates, which is the association of credit men of the banks, and, of course, repeatedly mentioned by the American Institute of Accountants, which was the original author-it seems incredible, we repeat, that such a document should not have been known and carefully studied by men whose business it is to conduct the banking industry of the country. It is difficult to know what can be done to make them read. In discussion with bankers to whose attention this supposed condition has been brought there is always the same reply, "You can't make people read and you can't make all men wise." This is true enough, but it does seem, particularly in times like the present when so much of the peace and happiness and future prosperity of the whole country depends upon the wisdom and perspicacity of bankers, that they would leave nothing unlearned that could be learned to assist them in the conduct of their labors. If they will not listen to their own supreme authority, the federal reserve board, to whom will they pay heed? We confess that we have very little sympathy with any banker who wilfully or unconsciously overlooks the means of grace which are presented for his assistance and guidance. The federal reserve board can not insist perhaps that any banker or so-called banker shall do any one of a number of things which the board can recommend, but the public has rights and the public should insist unequivocably that men who undertake to handle finance shall at least be familiar with the underlying principles.

# Shoe-Manufacturing Industry 

By G. C. Shannon<br>History of Shoemaking in the United States

From the beginning of civilization man wore some covering on his feet, and as civilization progressed through the ages, the making of footwear kept pace. The early settlers of the United States brought over from England strong serviceable footwear of good bark-tanned leather. On occasional ships, new supplies of shoes were brought over, but this source of supply soon proved insufficient to the needs of the people and they demanded that shoemakers come from Europe to make shoes for them. The first shoemakers came to the United States on May 28, 1629, and settled at Salem, Massachusetts. Soon the industry began to prosper. Stores were established to sell the shoes made or imported and shoemakers travelled from town to town making and mending shoes.

At first the shoemakers made the shoes in their homes, combining shoemaking with some other occupation, but later small shops alongside the homes were built. The mortality rate among the early shoemakers was very high, because of the rank air of their workrooms and the cramped position of their lungs while bending over lasts.

After the revolution the shoe trade began to expand. The first shop where leather was tanned and shoes made for the wholesale trade was reputed to have been in the town of Danvers, Massachusetts, soon after the Revolution.

But while the trade was increasing and the shoemakers were struggling to expand their businesses, old established shoemakers of England and France were sending shoes to this country in such quantities and at such low prices that it was almost impossible for Yankee shoemakers to overcome the competition. To meet this situation congress put through a tariff sufficient to keep out European shoes until American shoemakers got a firm start in business. The shoe industry then began to prosper and has prospered generally ever since.

The development of machinery in the shoe industry was very slow. The sewing machine, invented in 1846, was adopted to sewing the uppers of shoes in 1851. In the course of time manu-
facturers had sewing machines set up in their factories and connected them with steam or other power. Much of this work had previously been done in the home, and the introduction of these power-driven machines made the industry more distinctly a factory industry.

In 1858, the McKay machine, a sewing machine which sewed the soles to the uppers, was invented. This was followed by the Goodyear welt machine, developed between the years 1871 and 1875, which attached the soles to the uppers by the use of a welt. These two machines revolutionized the shoe-manufacturing industry. Production was greatly increased, hours of labor were decreased, wages increased, and people were supplied with better footwear at less cost.

For a number of years after soles had been sewed by machinery, it was necessary to last soles by hand, but in 1883 a successful lasting machine was invented, an almost human machine with fingers like a laster. Other machines were invented from time to time but they are subordinate to those mentioned.

Considerable opposition was offered by the workmen against the use of machinery, as they felt their trades would be lost, but they eventually bowed to the inevitable.

The steam engine was introduced for power in 1855 and after this shoemakers were forced into factories, as they could not meet the competition of machine-made shoes. The increased production forced the owners into offices to take care of the business, and the management of the factories passed into the hands of superintendents and foremen. Specialization began to be carried out on an extensive scale. While formerly one man made a whole shoe, now fifty or sixty persons, operating as many machines, and each specializing in a certain operation, make the shoe; and while formerly all kinds and classes of shoes were made in one factory, now certain factories specialize in certain kinds of shoes and thus increase production and cut costs.

Certain shoe organizations have been formed to handle problems like the tariff, national trade regulations, credits, factory conditions, and labor problems. Labor unions have been organized to provide shoemakers of skill and to see that the members are treated fairly as to hours of labor, conditions of employment, and wages.

Scientific management has played a prominent part in the development of modern shoe-manufacturing methods. Its ob-
ject is to save time and labor, increase wages and improve product. It considers the human element and undertakes to improve men and make them more proficient. It also tries to bring into harmony machinery, factory system and material with the workers. It seeks constantly to improve the employment of men, machinery, methods and products so that the producer may get more for his labor and the consumer more for his money.

## Organization

A shoe company should have a well planned organization, properly controlled, with competent men in charge of the various divisions of the business and with the work and responsibilities of each executive well defined.

All the departments and department heads concerned with the manufacture of shoes are under the direction of a general manager, who usually is an officer of the company and directly responsible to an executive committee or, in a small company, to the board of directors. The principal department heads in the manufacturing division of a shoe company are the style manager, purchasing agent, general factory manager, paymaster and cost and specification manager.

In a small company two or more of these positions may be held by the same person but the business seems to lend itself to these classifications of manufacturing organization.

## Raw Materials

The raw materials used in the manufacture of shoes may be divided into four main divisions, as follows: upper department materials, sole department materials, supplies and findings.

Upper department materials consist of all materials entering into the uppers of shoes, both the outsides and the linings. Included among these materials are all upper leathers and various kinds of cloth used for the outsides and linings of shoes.

Sole department materials comprise all leather and substitutes used to make up the bottoms of shoes. Included under this heading are box toes, counters, felt, gem duck, heels, inner and outer soles, tops and top lifts.

Supplies consist of materials and articles used in the manufacture of shoes and in preparing them for shipment, which are of sufficient value to warrant taking them into consideration separately in preparing specification costs. Such items are buttons,
cartons, cases, eyelets and hooks, heel pads, labels, laces, pull straps, ribbons, seam welting, shanks, sock linings and stays.

Findings are the small parts or accessories of a shoe not covered by the three foregoing classifications but essential to the manufacture of shoes. Coming under this heading are such items as cements, cleaners, chemicals, dressings, inks, nails, polishes, tacks, thread, wire, etc.

Leather, of course, is the principal raw material entering into the manufacture of shoes and may be described as being the skin of an animal, bird, fish, or reptile tanned or otherwise preserved, shrunk or toughened. Tanning consists in converting skins or hides into leather by the use of astringent acids. In earlier times these acids were derived from vegetable product, chief of which were the bark of the oak and hemlock trees. In recent years, mineral substances have come into general use for tanning, and tanning with these materials has proved to be much quicker and better, especially for upper leathers, giving them more softness and pliability and better wearing qualities. Chromealum is the principal mineral substance used; tanning with this material is known as "chrome tanning."

The tannages obtained from oak and hemlock bark, combined with other vegetable and mineral tannages, are still used quite extensively in tanning sole leathers, which require a firm, solid texture. Several months are required for the tanning of leathers. Sole leather on account of its thickness takes much longer to tan than upper leather.

The tanning of leather is a separate industry. Some of the larger manufacturers of shoes own and operate their own tanneries, not only because of the saving but also to assure themselves of a supply of leather of a uniform quality, best suited for their particular needs. Upper leather is usually measured by the square foot; sole leather by the pound.

The chief kinds of upper leather used in the manufacture of shoes are calf skin, cow-hide side leather, kid or goatskin and sheepskin. Other special and fancy leathers are used less extensively, such as buckskin, chamois, kangaroo, snake and lizard skins, alligator and shark-skins.

Some substitutes are used for leather in the manufacture of shoes. The chief substitutes for upper leather are fabrics, such as canvas, linen, and silk. Leatherboard and rubber are used as substitutes for sole leather and rubber heels are now being used
extensively. Celluloid and oilcloth products are sometimes used for box toes.

## Manufacturing Processes

There are different methods used in the manufacture of shoes, but the difference is due chiefly to the manner in which the soles are attached to the uppers.

There are six general divisions or departments in the modern shoe factory, as follows: cutting department, upper-fitting department, stock-fitting department, making department, finishing department and packing and shipping department.

The main divisions may be subdivided into factory rooms, sections or departments. In large factories one finds additional supply departments, chief of which are the sole-leather department, heel department, box-toe department, last, die and pattern department and box factory and printing department. The small factories usually buy the parts supplied by these departments.

Shoes usually go through the factory in cases of twelve, twentyfour or thirty-six pairs, each case containing one style of shoe, but usually different sizes and widths. A separate numbered tag is made up for each case and the details as to the materials, style, last, die and pattern numbers, sizes and widths are shown on the tag. As each case of shoes goes through the factory, the sizes and widths of each part are kept in the same order as on the tag. The main tag first goes to the cutting department, while subsidiary tags go to the stock-fitting department and supply departments, so that when the uppers of the shoes in process reach the making department, the soles, box toes, lasts, etc., will be ready to assemble with the uppers for lasting.

All the materials necessary for the uppers are cut in the "cutting" department. There are separate departments or rooms for the cutting of the outsides, trimmings and linings. The tag first goes to the stock room where the stock on hand is already separated according to kinds, quality, colors, etc. The materials necessary to cut the outsides of each case of shoes are laid out, and the main tag is attached to each bundle, which is then ready for the cutter. Subsidiary tags go to the trimming and lining cutting rooms, where the cutting of these materials goes on simultaneously with the cutting of the outsides. The cutting of the upper is one of the most skilled operations in the business,
and one of the best paid. Cutting is done both by hand and by machine. The hand cutter, cutting on blocks, places a pattern over the material and cuts around the outside of the pattern with a small keen edged knife. The machine cutter places a die over the part of the material to be cut, presses a lever and the arm of a machine, known as the "clicking machine," punches the sharp edge of the die through the material.

There are four principal parts to the outside upper of a shoe, the vamp, tip, foxings, and quarters. The last two have a left and right for each shoe. The cutter must know just where to place the pattern or die on the leather so as to get the stretch in the right direction and match the color and texture of the material.

The trimmings are generally cut from pieces of leather, etc., too small to be used by the outside cutters. In a large factory, when cutting the trimmings and linings, a number of tags are grouped together and the requirements are classified by styles, sizes, and widths. All similar parts are then cut at the same time, thus eliminating the constant changing of dies and patterns. Afterwards the parts must, of course, be reassembled according to the requirements of each case. The cutting of the trimmings and linings is done mostly on the clicking machines on which a number of thicknesses of lining can be cut through at the same time.

The various pieces cut are then stamped with lines showing where the stitching, perforations, button holes, eyelets, etc., are to go. The edges of the upper leather, which will show, are "skived" or beveled to a thin edge, which is then cemented and folded in, so as to give the shoe a more finished appearance. The various pieces are next assembled according to tag or lot numbers, and the separate pieces necessary for each case lot are tied together. A check is made to see that all pieces are accounted for and the size and width marked on each piece at this time in order to eliminate mistakes in going through the stitching department, to which the various parts, assembled by cases and accompanied by the main tags, are now ready to go.

All of the stitching, perforating and joining together of the uppers and linings is done in the stitching department. The room is divided into lines of machines. Every operation is performed by a different person on a different machine. The various parts of the lining go down one line of machines and, when they reach the end of the line, the lining parts are all sewed together. Various trimmings are sewed on by different operators;
the parts requiring perforations, buttonholes, eyelets, hooks, etc., are put through special machines for these purposes, and reinforcements are pasted on the parts which will have to stand the most strain. The outside parts then go down a line of machines where the tips are sewed to the vamps; the quarters and foxing are sewed together; the tongues are attached; and the quarters are sewed to the vamps. This operation completes the joining together of the parts representing the outside uppers of the shoe. The completed lining is next sewed to the outside upper completing the upper of the shoe, which is then ready for the making department. The sequence of the operations in the stitching department may vary considerably among factories and according to the style of the shoe, but the final result is the same.

It should be remembered that in going through this department, the various parts have been kept together by case lots, in the same order of widths and sizes, the various parts being separated for the several operations and finally assembled piece by piece into the finished upper. The main tag follows the vamp, and auxiliary tags are used for the other principal operations in this department.

As has been stated, when the main tag is sent to the cutting department, an auxiliary tag goes to the stock-fitting department, so that when the uppers of the shoes are completed, the bottom parts of the shoe, which are prepared in the stock-fitting department, are also ready for assembling with the uppers in the making department.

All of these parts are carried in the stock-room of this department and either have been purchased, in the case of small companies, or prepared in special departments by the large companies. The sole leather parts, as purchased or prepared, usually are in roughly blocked form and must be made to conform to the shape, size and width required, on a machine which cuts around the sole in conformity with an exact pattern.

In a large company, having a number of factories, generally only one method of shoemaking will be used in a single factory, either the McKay or the Welt process. The McKay insoles, which require only light leather, are first dipped in a solution of glue to harden and strengthen them, and are then cut in sizes and widths. The Welt insoles, which require a somewhat thicker leather, are first cut out in the required sizes and widths and are
then put through a channeling machine which, with two knives acting in opposite directions at the same time, cuts a double slit along the edge of the insole. The channel thus made is opened up on a lip-turning machine which raises a ridge around the outer edge to which the welt is later sewed. The lip is generally reinforced with canvas, cemented to and covering the bottom of the insole inside of the channeling to the top of the lip. The welt inner sole is sometimes slashed or cut across the ball of the foot on the under side to make it flexible.

In the outer sole division, the soles are cut to the required sizes and widths; the shank part of the shoe is thinned out and smoothed, and the heel seat is smoothed; and the soles are soaked and then moulded upon a high pressure machine to the shape of the shoe bottom. A feather edge is given to the forepart and heel seat of the soles which are to be made by the McKay process and channels are cut and turned in those to be made by the Welt process.

The counters, box toes, and heels are usually made in the required shapes and sizes and require no special treatment in the stock-fitting department.

When the insoles and outer soles have been completed they are assembled with the counters, box toes, and heels, packed in case lots according to the accompanying tags, and sent to the making department.

The making department is divided into three principal divisions, namely: lasting department, bottoming department and heeling department.

If more than one method of attaching the uppers to the bottoms is used in a single factory there would be separate rooms or divisions for the methods used.

From the making department, the shoes in process come to the finishing department, separately, by case lots with the main tags attached. In the finishing department, the heel and the edges of the shoe are blacked, or covered with a dressing suitable to the leather used, and finished on burnishing machines. The bottom of the shoe is buffed to remove the marks of handling and then is rebuffed to a finer degree on a special machine, after which it receives a number of coats of stain or other material and is then polished.

The shoes then pass to the "treeing division," where they are made to conform perfectly to the shape of the last, and the finish
of the leather is restored. The last is then removed and the shoes are examined inside for tacks or other imperfections. Bottom linings and heel pads are put in, if this has not already been done in the making department. The shoes are then placed on tree arms, where dirt and other substances are cleaned off, a dressing is applied to fill the pores of the leather and the surface is fully restored. Sometimes it is necessary to restain the shoes to bring out the finish. The shoes are then ironed with a hot iron upon the tree to give them permanent form. This is a very important and exact operation. After a final inspection, the shoes are sent to the packing and shipping department in case lots with the main tag attached.

In the packing department, the shoes are brushed off, inspected and placed on tables in pairs by sizes. The labels on the ends of cartons are stamped with the style, stock number, size, width and kind of leather. Each pair of shoes is wrapped in tissue paper and placed in a separate carton.

The shoes are then placed in stock according to stock numbers or placed in containers for shipment to customers. This is the first time the shoes are separated from the tag, which has followed them by case lots through the factory.

Copies of customers' orders are kept in the shipping department and as the shoes are finished or the time for shipment is at hand, the orders are filled and checked off and the shipments made.

From the time the shoes are put in process in the cutting department until the finished shoes reach the packing department, a period of from two to three weeks has elapsed, depending on the kind of shoe manufactured and the efficiency of the various operations and the production system.

## Production Methods and Control

Most of the modern shoe factories now operate under a production or "sheet" system, some of the more important advantages of which are as follows:

Reduction of time in process.
Uniform volume of production, resulting in decrease in cost and overhead expense.
More steady employment for workers, with increased efficiency. Economic use of material.
Ability to tell exact dates of shipment.

The production system consists of putting into the factory each day a given number of cases of shoes so selected that they will not exceed the capacity of the plant and will pass through the various departments without meeting unusual obstacles or delays.

The first step in the operation of the production system is an analysis of sales orders. As the orders are received, they are entered on an order-analysis form, which should show the quantities of the different kinds of shoes to be made, number of lasts of each style required and quantity of various kinds of leather or other materials necessary. The purpose of this record is to show the burden to be placed on the factory and equipment and to give the purchasing agent a record of material and last requirements. The record should be kept by shipping periods, each month being divided into a number of periods and each order assigned to a certain period. The orders of a certain period are then grouped by similar styles into case lots of twenty-four or thirty-six pairs, and tags are prepared for each of the various lots.

The tag is prepared so as to show all details necessary for the construction of the shoe, some of the most important of which are:

Style of shoe and sizes and widths.
Color and kind of outside materials and patterns required.
Kind of linings, trimmings and other inside materials with proper patterns.
Box toe, counter, grade and weight of sole, heels, shanks, etc.
Fastening, stitching, finish of bottom and edge, etc.
Kind of sock lining, heel pad, laces, cartons, etc.
As the time approaches for beginning the production of the shoes, tags are divided into groups, each group comprising the work to be put into the factory each day. The tags for each group are then numbered consecutively (the first tag taking the next number after the last number entered on the previous production sheet) and are then entered on a production sheet, which contains certain information taken from the tags, such as the tag number, number of pairs, style of shoe, etc. Enough copies of the production sheet are made for each department or checking station and for office records.

A time-table is prepared to show the exact day and hour when the last case on each sheet should pass each department or checking station. This information is entered on the production sheets, giving each department head information as to the exact time he may expect the shoes listed on each sheet and when they
should be completed in his department. The time for completion in each department or checking station is also entered on a record in the factory office, which keeps a record of the shoes as they go through the various departments.

Checking stations are located in different parts of the factory where the passage of shoes is recorded at least once a day. Some departments may require several stations. As lots are completed and ready to pass the various checking stations, the case or tag numbers are canceled on the "sheets." The open items on the sheet represent the cases not completed. When certain lots of shoes are not completed in scheduled time in a department, these lots are traced, the reasons for the delinquency is determined, and the lots are rushed. Workmen should not be allowed to work on a new "sheet" of shoes until the old "sheet" has been entirely completed. After all cases have been crossed off in a certain checking station the "sheet" is marked with the date and hour of completion of the last case and is then taken to the foreman of the next department for his signature as to the receipt of the shoes in his department. After that the "sheet" is sent to the factory office for record of date and hour of completion on the calendar and time table, from which the factory superintendent can check the passage of the shoes through the various departments and the efficiency of the various foremen.

## Products and By-products

The products of the shoe-manufacturing industry may be said to include all outside coverings for the feet, made of leather or other materials, for all times and all purposes. This would include shoes, boots, bedroom slippers, etc., for both male and female, for all ages and sizes, from infancy to old age, from the daintiest woman's shoe to the hod carrier's rough working shoe, and from the light-weight fabric shoe for summer to the heavy weather resisting shoe for winter.

Manufacturers, however, generally specialize in a particular kind of shoes. Some produce only boys' and men's shoes; others produce infants', girls', and women's shoes; some produce only high-priced custom shoes for a certain class of people, where quality and style are stressed; others produce low-priced shoes to appeal to all classes of people; some produce dress shoes; others produce working shoes; some produce shoes of special leathers, styles, etc., while others produce shoes where the comfort of the
shoe is paramount, such as the arch-preserver shoe and other corrective shoes of this kind; some produce shoes to sell under buyers' names, others market their shoes under their own brands or trademarks.

Leather is too valuable to waste, and there is little waste in the efficiently operated shoe-manufacturing factory. The leather is used to the best advantage, pieces too small for main parts of the shoe are utilized for trimmings, etc. All the remaining scraps and shavings from the leather and cloth are sold, the leather scraps being ground up and used as fertilizer.

## Specification Costs

After a new model for a shoe has been designed and the specifications for the construction of the shoe and the materials to be used have been determined, the selling price of the shoe must be fixed. In order to fix the selling price, the cost of the shoe must be accurately determined before manufacture is begun. For this purpose, a cost estimate for each style of shoe and for each range of sizes is prepared. The estimate is usually made for a dozen pair of shoes, in order to eliminate fractions of cents. Where, for instance, a style of shoe is to be made up in youths', boys' and men's sizes, a separate estimate is prepared for each range of sizes, but the estimate of cost would be based on an average size in each division, as it is thought that the cost per pair of all sizes combined in any size range would about equal the cost of the size used in preparing the estimate. Because the selling price is the same for all sizes, within a size range, no estimate of the cost of the various sizes is considered necessary.

In preparing the estimate, all the numerous parts of the shoe and the labor operations are listed down the side of a form or on supporting forms used for this purpose, the standard parts and operations generally being printed and space left for filling in additional items. Separate columns are provided on the form for material and labor costs, which are entered in detail opposite the respective articles to which they apply. The royalty, allowances for lasts, dies and patterns, manufacturing overhead, selling, general and administrative expenses, discount and profit are added to the total of the labor and material items to reach the selling price of the shoe.

Before the various items can be estimated a considerable amount of research work must be done. The raw materials,
supplies and findings required are generally valued at market, and this value must be changed from time to time for any important changes in the market. The value of the cut parts, supplies and findings can easily be obtained, but before the value of the leather and other materials to be used in cutting the uppers, trimmings and linings can be extended it is necessary to determine the footage or quantity of these materials necessary to cut the various parts and to fix "cutting allowances." The cutting allowances for linings and trimmings, where the exact size of the materials from which they are to be cut is known, can be computed accurately without much difficulty, but the footage of leather necessary to cut the uppers, which represents one of the largest items entering into the specification cost, is more difficult to determine, on account of the lack of uniformity of the skins in size and shape and the necessity of cutting the various parts out of certain parts of the skins so as to match in color and appearance and to get the stretch of the leather in the right direction. The cutting allowance for leather is determined by first fixing a base allowance, founded on the number of square feet necessary to cut the parts out of paper, which is determined by test or from tables and then adding a coefficient representing a predetermined percentage based on previous experience to allow for the loss of footage caused by the cutting requirements already mentioned. The cutting allowances must be fair and accurate, as the estimated cost of the shoe is based on them and the shoe is sold on that basis before the actual cost is determined.

The labor on all of the operations in the manufacture of a shoe is paid for on a piece-rate basis, with the exception, in a large number of companies, of the labor of cutting the uppers, which is paid for on an hourly basis, because if this work were on a piecerate basis, the workmen would endeavor to earn as much as possible, and might become careless with the material, a small saving of which would more than offset any increase in the labor cost. The labor cost of the operations which are standard or similar to operations on other styles of shoes is determined from rates previously fixed. Time studies or accurate estimates must be made in order to determine the labor cost of new operations.

Royalty is paid on certain machines used on a per-pair basis and the royalty cost of the shoe can be easily computed.

One of the hardest items in the specification cost to determine is the fair amount to charge to the cost of the shoe for lasts, dies
and patterns. This represents a large item in the manufacture of shoes. There must be a pattern or die for each part of the shoe and in most instances a different die, pattern and last for every style of shoe. In determining the cost to be charged on the estimate, it is first necessary to know the number of pairs of shoes of the particular style to be manufactured and then divide the cost of the lasts, dies and patterns on this basis. The information necessary to permit this estimate may be obtained from the salesmen. In some companies manufacturing a staple kind of shoes, where a large number of shoes of each style is produced, the lasts, dies and patterns cost is included in the manufacturing overhead and the cost is distributed on the same basis as the other manufacturing overhead items.

To provide for manufacturing overhead expenses, a predetermined percentage applied on either the estimated labor cost or, in some cases, the labor and material cost combined is added. No attempt is made to determine or distribute the manufacturing overhead expenses in the estimate by departments, as practically all the shoes manufactured go through all departments and the overhead can be equitably distributed in total. In a large company, where only a certain kind of shoes would be manufactured in any one factory and the labor cost of the different styles would be practically the same, the manufacturing overhead may be distributed at a fixed amount per dozen pairs. An allowance for general and administrative expenses and selling costs based on predetermined percentages of previous manufacturing costs or estimated current costs is added to take care of these items, and then a percentage of the total cost is added for the expected profit in order to arrive at the selling price of the shoe, which is generally fixed at an even amount.

It is the work of the cost department to furnish the percentages, etc., to be used and to prove their accuracy from time to time from the actual costs.

Material Records and Costs
All materials, supplies and findings used in the manufacture of shoes are kept in store-rooms in the various departments under the custody of storekeepers. Perpetual inventory records of the various materials used and of the more important supplies and findings are usually kept. The perpetual inventory records are generally kept by quantities alone, but sometimes by both quanti-
ties and values, depending on whether a cost system requiring such information is used or not. The materials and supplies received are posted on the inventory records from duplicate invoices or duplicates of receiving reports, while the withdrawals, which are authorized by production orders, supported by shoe tags, in the case of materials, and by requisitions, in the case of supplies and findings, are posted from these sources. The records used in the case of cut parts and supplies are similar to the records used in other manufacturing industries, consisting of a perpetualinventory card or loose-leaf system, a weekly report of quantities received, quantities used and quantities on hand for use of the cost and specification departments in compiling costs and estimates, and a statement of requirements for the use of the purchasing agent. The material records for the cutting department, however, require special treatment. The perpetual-inventory records are somewhat similar to the other records of this nature. A card is kept for each lot of material with full details and columns for material issued and materials returned, the last column being necessary on account of materials issued to the cutters in excess of actual requirements. The quantities are shown in feet or yards.

Before the material is issued to the cutters, a record is prepared in the factory office for each case lot showing the stock number of the shoe, description of the leather to be used, details of the parts to be cut and the predetermined cutting allowance for each case of shoes. This record goes to the stock room where the materials are issued according to specification. The name and number of the cutter to whom the material is issued for cutting is entered on the record, and after the parts have been cut and a record has been made by the cutter on the cutting record, the excess leather is returned to the store-room by the cutter, who is given credit on the cutting record. The cutting record is then completed to show the actual quantity used, the value, the allowance and the gain or loss in both quantity and amount.

Summaries are compiled weekly and monthly to show the record of each cutter and the total gain or loss in quantity and in value between the allowance and the actual. If a cost system which "ties in" with the general records is in use, the monthly charge to work in progress and the credit to the inventory accounts for materials used can be obtained from the summaries. The credits to the inventory accounts can be made at actual cost
or at the estimated cost. If the inventory accounts are credited at estimated cost, the variation between actual cost and estimated cost will remain in the accounts until a physical inventory is taken and the accounts are adjusted, but if the inventory accounts are credited at actual cost, work in progress can be charged with the estimated cost and an account "material variations" charged or credited with the variation between the actual cost of materials and the specification cost. The credits to inventory accounts and charges to work in progress for sundry supplies and findings used are generally made at the estimated specification cost of such items used, as it is impracticable to keep a record of loss or gain on such supplies. In some shoe companies the volume of work in compiling information as to materials used and in making monthly entries for them to the inventory and work-in-progress accounts is considered too great to justify the time necessary. Therefore, such information about important raw materials is kept in memorandum form only.

## Wage Systems, Payroll Procedure and Labor Costs

As already stated, practically all of the direct labor is paid on a piece-rate basis. The principal exception is the cutters, who are usually paid on an hourly basis. Beginners are often paid on an hourly or daily basis until they have become experienced, and there are usually a few persons in each department, whose work is of such a nature that it is more practicable to pay them on an hourly or daily basis than on a piece-rate basis. Work of this nature includes the trucking of shoes from one department to another, assembling of parts, etc. An average cost per dozen, based on previous experience, is generally included in the cost estimate for indirect labor, or the labor may be included in overhead expense and so distributed.

The following procedure is used by one concern for its factory payrolls and labor costs. Every week each employee receives a time card with his name and number, on which he punches daily his time in and out. On the reverse side of the card are inserted the total hours worked, the rate, if paid on an hourly basis, the total earned, the deductions and the amount paid. The employee signs his name and address on the card before receiving his wages. The piece workers, in addition to the time card, fill out a " worker's daily report." This shows the worker's name and number, operation, and machine number. Columns are provided for case
numbers, pairs, stock numbers, sizes and price (labor allowance per case). As the employee completes his work on each case of shoes, he fills in the information, using a line for each case. At the end of each day, he totals up his earnings for the day, inserts the total in the space provided therefor, enters his accumulated total for the week to date and turns in the report to the factory office. In the factory office, a sheet for each operation is kept, showing the name of the operation and the rate or rates applicable. This form is blocked off into 1,000 small spaces, numbered from 1 to 1,000 , and at the top of the form is entered the thousand for which the sheet is used; thus if 5,000 was entered at the top of the form the number 1 would mean 5,001 . These numbers represent the case numbers and are used to account for each operation on each case of shoes. Since not all of the shoes may pass through such operation or since the rates may not be the same for different shoes, a method must be used to indicate this variation. Therefore, each rate is given a different color and a line is then drawn down the middle of each column of spaces, the different colors being used for the different rates and no lines being drawn through the spaces which do not take the operation. After the piece workers' daily reports are turned in, the employee's number and a number to indicate the date is stamped in the space provided for each case, the rates shown on the employees' cards being checked as the entry is made. Every case is accounted for and the accuracy of the employees' reports as to cases and rates is proved. If cases are missing or reported more than once, they are looked up and any errors either on the part of the employees or in entering are corrected. From these forms, if the shoes show defective workmanship, can be ascertained the names of the workmen who performed any operation.

After the case lots have been entered on the sheets, the piece workers' daily reports are proved as to the day's earnings and the reports are filed by employees' numbers until the end of the week, when adding machine runs are made of each employee's earnings for the week, the total being entered on the time card, previously mentioned, and on a form for each employee, showing his record of earnings each week for a year and also deductions, amount paid, etc. The time workers' weekly wages are also entered on these forms from the time cards.

From the "record of earnings" cards, a summary of the weekly payroll, classified by departments and between productive and
non-productive labor is prepared on a form with columns for four weeks, from which the distribution of the payroll is obtained. A list is also prepared from which the payroll cheques are made out, and the cheque numbers are entered on this list. The cheques are distributed by office employees, in the presence of department foremen, the employees signing the time cards at this time.

In the cost department monthly totals of the distribution by departments, classified between productive and non-productive labor, are entered on a form, which is designed to show the gain or loss for the month and for the year to date, between the estimated labor on shoes produced and the actual labor, and also to show the cost per pair in each department.

The departments are listed down the side of the form, and columns are provided for pairs produced for the month and the year to date, the estimated labor for the month, the actual labor cost for the month, the gain or loss for the month and for the year to date and the cost per pair for the month and for the year to date. The information obtained from this source enables the officers to keep a close check on the accuracy of the estimated labor costs used in the specification cost estimates. This system would only work properly in a factory where a more or less uniform class of shoes was produced or where the production was in sufficient quantity to make an average cost accurate.

## Overhead and its Distribution

In overhead are included all the expenses in the manufacture of shoes which, on account of being more or less general in their nature, can not be charged directly to the cost of the shoe but yet represent an important part of the cost of the shoe and must be distributed on some equitable basis.

Some companies include in overhead certain of the minor supplies and findings used in all shoes and also departmental non-productive labor, while others make specific allowances for these items in the specification-cost estimates. The practice is not uniform and depends somewhat on the kind of shoes manufactured. Other items for which specific allowance may or may not be made are lasts, dies and patterns. If the lasts, dies and patterns are for a special class of shoes, in which the styles change rapidly, it is better to make a specific allowance for these items, as they represent an important part of the cost of the shoe.

The following is a list of the important expenses usually classified as overhead items:

Administrative expense
Depreciation-buildings and equipment
Freight, express and drayage
Factory office-expense
Insurance-buildings and contents
Insurance-disability
Light, heat and power expense and supplies
Rent
Salaries-administrative
Salaries-general help
Salaries-factory office
Salaries-power plant
Stationery and shoe tickets
Taxes
Telephone and telegraph
Water
Some large companies, operating a number of factories, include in overhead expenses inter-departmental interest charges on plant and equipment and on stock, in order to place the factories on an equal footing.

The most common method of distributing overhead expense in the shoe business, is on the basis of a pre-determined percentage of the labor cost. The reasoning behind this method of distribution is that the overhead expenses increase in direct proportion to the productive labor cost, since the more complicated the manufacture of the shoe, the longer it would be in process and the greater the labor cost and the overhead expense. Some companies distribute overhead on the basis of a percentage of the labor and material cost combined, which might be suitable in some instances where a varied class of shoes is manufactured. Another basis of distribution of overhead is a fixed amount per pair of shoes manufactured. The use of this method would only be practicable where a uniform sort of shoes was produced and the time in process and the labor costs of the several styles did not vary to any great extent.

The overhead rate or percentage, found by dividing the total overhead expense by the total labor cost, may be based on previous overhead and labor costs or may be based on the estimated overhead and labor costs for the current year. The latter method, known as "budgeting" is coming more and more into use, since in addition to having the benefit of experience to go
on, it can take into consideration economies to be effected and changing conditions in the business.

Under the budget plan, which must be completed prior to the beginning of the period to which it applies, the first thing to be fixed is the production for the period. The sales department is asked to indicate the amount of expected sales, and from this the estimated production is fixed; but the capacity of the plant must be taken into consideration and also the fact that if the expected sales are not sufficient to operate the factory at a fair percentage of its capacity, the overhead rate would increase accordingly and the cost of the shoe would be so great that it could not be sold at a price which would meet competition. Therefore, even though the expected sales might not justify it, the production would have to be fixed at a fair percentage of the capacity of the factory, which should probably be at least 65 per cent. to 70 per cent. After the production has been fixed, the labor can be estimated by classifying the shoes to be produced and applying estimated labor costs to the various classes, to compute the total labor costs.

The heads of departments are given a list of labor items and overhead expenses on which they are to make estimates, together with information applying to their particular departments regarding estimated production, previous costs and other data which may help them in arriving at accurate estimates. From the estimates so obtained and after much thought, the estimated labor costs and overhead expenses for the period are fixed, and the overhead rate is obtained by dividing the total estimated labor cost into the total estimated overhead expenses.

After the overhead expenses, production and direct labor costs have been estimated for the year, a close check of the accuracy of such estimates can be obtained by setting up on a form the estimated cost of each overhead expense and the total of it per dozen, for the year and for a month and also the estimated production and estimated direct labor cost for the year and for a month. Columns should be provided on the form for entering the actual expenses, production and direct labor cost each month and for the year. From such information, the variations between the estimates and the actual can be determined monthly and any necessary changes made.

If a cost system is used, "tying in" with the general records, entries can be made monthly charging work in progress with the estimated overhead expense, based on the production, and charg-
ing or crediting unabsorbed or overabsorbed overhead expenses with the variation between the estimates and the actual costs.

## Depreciation, Plant Renewals and Maintenance Charges

There do not appear to be any standard rates of depreciation in the shoe industry. The rates generally used on cost, which are allowed for income-tax purposes, are as follows:

| Buildings: |  |
| :---: | :---: |
| Brick | 2\% |
| Wood | $4 \%$ |
| Machinery and equipment | 8 to 10\% |
| Furniture and fixtures. | 10\% |
| Automobiles and trucks | 25\% |

A great many shoe companies now have appraisals set up on the books and calculate depreciation on reproductive values at rates furnished by appraisal companies. The rates furnished by appraisal companies are generally lower than the rates taken on cost, especially in the case of machinery and equipment, on which the appraisal rates would probably not average more than 6 per cent. to 7 per cent.

Improvements on machinery are being made constantly and the factor of obsolescence must be given due consideration in determining the rates of depreciation to be used.

A large part of the bottoming machinery used by shoe companies is leased on a royalty basis; and repairs to such machinery are made by the lessor and charged to the lessee in addition to the royalty. The machinery and equipment used by a shoe company are subjected to hard usage, must be kept in a high state of efficiency and consequently the repair and maintenance expense usually runs rather high. Small machinery, such as sewing machines, require frequent replacement of parts, which are generally treated as repair items. In a shoe company, lasts, dies and patterns are generally carried on the books at a fixed amount (usually at a nominal value of $\$ 1.00$ ) and all replacements and additions to these items are charged to expense. The cost of such items in a year is usually large and represents a very important part of the cost of the shoe.

In a large shoe company, machinery and equipment is constantly being scrapped, resulting in a loss or gain on such assets. One company has adopted the plan of charging all losses and gains
on the sale or disposal of machinery and equipment against the reserve for depreciation, on the theory that the rates of depreciation used are composite rates based on an average life of all machinery and equipment; that in determining loss or gain, the average rates can not be applied against any particular machine or piece of equipment; and that over the life of all of the machinery and equipment no loss or gain should result from the sale or disposal of it if the composite rates used are sufficient.

## Distribution

There are four principal methods used by shoe manufacturers in distributing their products, which may be stated as follows:

## Direct to retailer

Through jobbers
Through chain stores, mail order houses, etc.
Through own retail stores
Some shoe manufacturers use a combination of two or more of the above methods in disposing of their products.

Where a shoe-manufacturing concern sells direct to retailers, it maintains a force of salesmen, who have specific territories and make periodical calls on each customer or prospective customer for the purpose of securing orders, maintaining goodwill and keeping in touch with local conditions. Most of the manufacturers using such methods of distribution sell the shoes under their own trade names in expectation of creating a permanent and increasing demand for their particular brands. However, some retailers prefer to sell to the public without using the manufacturers' brands, in order not to become dependent on any particular manufacturer. This enables the retailers to take advantage of the competition for their orders and possibly to undersell the retailers using standard brands. Very few manufacturers produce all kinds of shoes and the retailers may purchase men's, women's, boys', girls' and other kinds of shoes from various manufacturers. Many retailers, especially in small towns have general merchandise stores and the sale of shoes represents only a part of their business.

Some of the smaller manufacturers sell through jobbers, who maintain sales forces for distributing the shoes to the retailers. Where that method of distribution is used, the manufacturer generally does not require a large force of salesmen, as the number of jobbers on whom they have to call is more or less limited and
contact with the jobbers can be satisfactorily maintained in some instances by correspondence. Most of the shoes distributed by this method are sold either under the jobbers' or the retailers' trade names, although in some instances where the manufacturers' trade names have been established, those names may be used.

A company operating a chain of stores or a mail-order house may contract for the purchase of all or of a substantial part of the shoes produced by a manufacturer. In that case, customers generally contract for their requirements for a season or longer on a cost-plus basis or some similar basis and sell the shoes under their own trade names. The manufacturer requires little sales organization for this type of business. Some large manufacturers, in order to keep up the volume, secure a steady production and keep down their costs, may contract for such business on a very small margin of profit. Contracts to furnish shoes to the army or navy or other organizations requiring a large quantity of shoes may be taken on much the same basis.

Some shoe-manufacturing concerns operate retail stores in large cities and sell their product under nationally known trade names. Such manufacturers generally specialize in certain kinds of shoes and advertise their products and trade names extensively. In addition to selling through their own retail stores, such manufacturers generally give exclusive agencies to retailers in smaller cities and towns to sell their products under trade names.

There do not appear to be any peculiar terms or discounts on sales in the shoe business. The usual terms are 2 per cent. cash discount, if the invoices are paid in 10 days, or 30 days net. Special discounts are sometimes allowed to customers when the total of their yearly purchases reaches a stipulated amount.

The domestic consumption of shoes has about reached its peak and the sale of shoes has become extremely competitive. The manufacturers of high-quality shoes are stressing style, beauty and quality, the manufacturers of corrective shoes, comfort, and the manufacturers of low price shoes, wear and price. Conditions have changed in the distribution of shoes since the advent of the automobile and hard roads. Farmers, instead of buying in small towns or from mail-order houses, are driving to the cities where they can get a better selection. The small-town merchant is becoming less and less an important factor in the distribution of shoes and some manufacturers who have catered to this class of trade have not adjusted themselves to the changing conditions
and have found their volume of sales steadily declining. In the low-priced shoe business the competition is great. At the present time the foreign market does not appear to be much of a factor in the distribution of shoes made in the United States, since because of the higher wages paid to workmen in this country the cost of such shoes is greater than shoes made in foreign countries, although the quality in most instances is considered superior.

The cost of distribution of shoes varies greatly according to the method of distribution used. Where a manufacturer distributes to retailers through a force of salesmen, the salesmen's salaries, commissions and traveling expenses represent the major item of distribution expense. Salesmen are usually paid on a straight commission basis, with a weekly drawing account, although in some cases they are paid a salary and traveling expenses together with a commission on sales in excess of a stipulated amount. Salesmen paid on a straight commission basis generally receive a commission from 3 per cent. to 7 per cent. of the amount of the sales, depending on the quality of shoes sold. Out of such commission, the salesmen must pay their traveling expenses. Although there is generally a provision in the contract with the salesmen that all amounts paid on drawing accounts in excess of the actual amount of commissions earned shall be returnable, most companies write off these balances or provide a reserve, as experience has proved that it is almost impossible to collect such balances, especially if a salesman is dismissed or leaves the employ of the company.

The cost of advertising is dependent on the method of distribution and on the policy of the management. Shoes sold under manufacturers' trade names are usually widely advertised and the cost of advertising is an important part of the cost of distribution of such shoes, but the expense is usually limited to a certain percentage of the sales.

## Financial Records and Their Relationship to Cost Records

The records and accounts vary greatly according to the size of the business and the information required by the management. For the concern operating only a single plant a simple set of financial records, such as those in general use for manufacturing concerns, consisting of a general ledger, customers' ledger, cashbook, journal, sales record and voucher record, would seem to suffice; but for the larger companies, operating a number of factories and branches, the records would have to be expanded
and revised to meet the requirements of the particular business. A more or less detailed classification of operating accounts should be carried, so that a fair comparison between actual and estimated expenses can be made and in order that sufficient information may be available for the preparation of a budget for the coming year. Classifications of labor and operating expenses by departments should also be kept in supporting records. Because it is impracticable in the shoe-manufacturing business to take monthly physical inventories no actual monthly determination of profits is made. In some instances the cost records are not "tied in" with the financial records and no determination of profits or losses is made on the books until physical inventories are taken at the end of the year. However, there are some companies which do connect their cost system with the financial records and obtain a monthly profit or loss on the books. For this purpose companies usually carry raw material and supply, work in progress, finished goods and cost of sales accounts in their general ledger classification of accounts. Work-in-progress account is charged and material and supply inventory accounts are credited monthly with the value of materials and supplies put into production, obtained from summaries of cutters' records and perpetual inventories and from estimates of supplies and findings used, based on the volume of production. Work in progress is also charged monthly with the labor cost and the various manufacturing overhead expenses of the business. In order to make these entries, it is necessary to set up all prepayments and accruals and to calculate depreciation monthly. Work in progress is credited and finished-goods account is charged monthly with the estimated cost of shoes produced during the month, such cost usually being obtained from summaries of specification costs of shoes produced. After these charges and credit to the work-in-progress account, the balance in that account at the end of each month represents the estimated inventory value of the work in progress. The finished-stock account is credited and cost-of-sales account charged with the total estimated cost of shoes shipped during the month, obtained by costing the sales at their specification cost. If physical inventories of work in progress and finished stock are taken monthly and priced at specification costs, a more nearly correct cost of sales can be obtained. Accounts may be carried for variations between actual costs and allowances for materials, labor and overhead expenses in specification costs,
which would represent adjustments of the cost of sales as determined above.

After the cost of sales has been determined, a monthly profit and loss can be obtained from the financial records, but these results represent only estimates, which may be obtained as easily in memorandum form without the necessity of putting the entries through the financial records or closing out the operating accounts monthly.

Some shoe manufacturing concerns do not wish to wait a full year before knowing the actual results of their operations and therefore have inventories taken semi-annually or quarterly and determine the results of their operations for these periods.

While there is usually no direct connection, in most instances, between the financial records and the cost records, the actual cost of the labor, material and burden each month can be compared very closely with the estimated specification costs on which the selling prices of shoes are based and the causes of any large variations determined and immediately corrected or the selling prices adjusted. The actual warehousing and shipping, selling and general administrative expenses can also be compared with the amounts allowed in the budget for these expenses and the causes for any large variations can be determined.

## Balance-sheet

The general form of balance-sheet used for shoe-manufacturing companies does not differ materially from that used for other manufacturing industries. A suggested form, which will cover the assets and liabilities usually appearing on the balance-sheet of a shoe-manufacturing company follows:


## The Journal of Accountancy

Miscellaneous accounts receivable:
Salesmen's traveling advancesSundry
Advances on hide purchases, etc
Inventories:
Manufactured merchandise
Merchandise in processRaw materials, findings, etc.
Total current assets
Expenses paid:
Insurance, taxes, interest, etc
Unused patterns, dies, etc.
Sundry expense inventories
Notes receivable (maturing after one year)
Due from officers and employees
Investments in stocks and bonds of other companies, etc.
Property, plant and equipment:
Land
Buildings, machinery and equipment
Buildings
Machinery and equipment
Automobiles and trucks
Furniture and fixtures
Less-reserve for depreciation
$\square$
Lasts, dies, and patterns (as valued by management)..
Deferred charges-unamortized bond discount
Patents, trade-marks, etc
Total

## Liabilities

## Current liabilities:

Notes payable
Accounts payable and accrued expenses:
Accounts payable for merchandise, expenses, etc. . . .
Accrued wages, taxes, interest, etc.
Officers and employees balances and commissions due
Provision for federal and state income taxes
Total current liabilities


If any of the accounts receivable, inventories, physical properties or other assets have been pledged as security on notes payable, bonds, etc., the items should be so earmarked on the balance-sheet and the amounts pledged shown. If the inventories are valued at other than on the basis of cost or market whichever is the lower, the exact basis of valuation should be shown on the balance-sheet. If the property, plant and equipment is stated at appraised values, the name of the appraisal company and the date of the appraisal should be shown on the balance-sheet. The surplus arising from appreciation of physical properties should be included in capital surplus or under a separate caption. If depreciation has not been taken regularly and the reserves are not considered sufficient, the balance-sheet should either be adjusted to show sufficient reserves or a notation should be made of this exception.

A careful analysis of salesmen's debit balances is necessary to determine whether such balances should be treated as a current asset or otherwise. If the balances represent current traveling advances, they are usually treated as current, but if they represent an excess of advances made over commissions earned and are being increased from time to time, they should be shown below the current assets on the balance-sheet.

Sometimes shoe manufacturing companies make advances to agents or honor sight drafts for the purchase of hides in foreign markets. If such advances are of any consequence, they should be shown under a separate caption in the current assets on the balance-sheet.

Lasts, dies and patterns are usually valued on the balance-sheet of a shoe-manufacturing concern at a nominal value of $\$ 1.00$, since such forms require frequent replacement and become obsolete very quickly. If a valuation of such assets is made by the management or if some other basis of valuation is used, this information should be disclosed on the balance-sheet.

Deferred expenses, patents and trade-marks should be written off by regular charges to operations and if this is not being done, a notation should be made on the balance-sheet.

If the company has made purchase commitments and the market value on such commitments has dropped below the cost, a reserve should be provided or a notation made on the balancesheet.

As an inducement for a shoe-manufacturing concern to establish a factory in a certain town, the town usually donates the site and part of the money necessary to erect the factory, and in consideration the concern usually agrees to pay out a certain sum of money on payrolls over a stipulated period of years. The contribution from the community is usually treated as a reserve and each year, an amount is transferred to capital surplus, based on the proportion of the actual payroll to the payroll contract.

## Profit-and-loss Account

The form of profit-and-loss statement for a shoe-manufacturing concern does not differ materially from that used for other manufacturing industries. A suggested form for the general profit-andloss statement follows:

Form for Profit-and-loss Statement

```
Gross sales
Deduct:
    Discounts
    Returns and allowances
    Freight allowed
        Net sales
Cost of sales
```

Gross profit
Expenses:
Selling
Administrative and general
Bad debts
Net profit
Miscellaneous charges (net):
Interest paid
Amortization of bond discount
Loss on assets sold
Sundry

## Less:

Interest earned
Income from investments
Sundry
Provision for federal and state income taxes
Net income

The cost of sales shown on the general profit-and-loss statement in total would be supported by a schedule, the form of which would be as follows:

Form for Cost of Sales Statement
Raw materials used:
Upper leather
Sole leather
Other materials and findings
Less-discount on purchases.
Raw materials (net)
Productive labor
Manufacturing expenses:
Salaries:
Executive
Office and clerical
Supervision
Non-productive labor
Lasts, dies and patterns
Machine rentals and royalties
Light, heat and power.
Insurance
Taxes and licences
Truck expense
Factory supplies and expense:
Office
General
Repairs and maintenance:
Buildings
Machinery and equipment
Depreciation:
Buildings
Machinery and equipment

Deduct-Increase in inventory of finished shoes and shoes
in process
Cost of sales

The expenses shown in total on the general profit-and-loss statements would likewise be supported by a schedule as follows:

Expenses

## Selling:

Salaries:
Sales manager and assistants
Clerical
Salesmen's salaries and commissions
Traveling and entertainment expense
Salesmen's equipment expense
Advertising:
Salaries
Expense
Printing, stationery and office supplies
Telephone and telegraph
Sundry
Total selling
Administrative and general:
Salaries:
Executives
Clerical
Printing, stationery and office supplies
Telephone and telegraph
Traveling and entertainment
Dues and subscriptions
Donations
Insurance
Taxes
Legal and accounting expense


Before a yearly profit-and-loss statement can be prepared for a company which carries its cost system through the financial records, it is necessary to analyze the work-in-progress, finishedgoods and cost-of-sales accounts in order to eliminate the monthly transfers between these accounts and to determine the various items of cost and expense entering into the cost of sales. The items, which are closed into these accounts monthly, must then be summarized in order to obtain the totals for the year necessary for the preparation of the profit-and-loss statement. Where the cost system is not connected with the financial records, the profit-and-loss statement can generally be prepared direct from the trial balances of the general and subsidiary ledger before closing or from a trial balance of items closed into the profit-andloss account at the end of each year. However, in some cases, shoe-manufacturing concerns carry only a more or less condensed classification of accounts, and it is necessary to analyze a number of accounts in order to prepare a properly classified profit-and-loss statement. Before proceeding with an analysis of this kind, the auditor should make certain that the company does not have the necessary classification in a subsidiary record or in memorandum form.

Interesting comparisons with other periods can be made of pairs produced and pairs sold and the average cost and selling price per pair. The sales in pairs and amounts by territories can be shown and compared with other periods. Where a number of factories or selling branches are maintained, comparisons of production, costs, sales and other data can be compiled. They may be of great interest and value to the management.

## Special Auditing Features

With the exception of the valuation of the inventories of work in process and finished products, there do not appear to be any special features of the audit of a shoe manufacturing concern
which are not encountered in the audit of most manufacturing concerns.

The inventory of finished shoes is usually valued at the estimated costs used in the determination of the selling prices. The valuation of the shoes in process is usually based on the same estimates, taking into consideration the stage of manufacture of the shoes.

In order to be satisfied as to the accuracy of the estimated shoe costs it is necessary to make a complete investigation into the costs compiled by the company, to determine how closely the totals of the costs used in the estimates for materials, labor and burden have come to the actual costs of such items. In the case of materials, it is necessary to see that sufficient cutting allowances have been made and that the prices used in the estimates for materials are on the basis of cost or market price whichever was the lower at the date of the inventory or that a sufficient reserve has been provided to reduce the value of the materials in the inventory to such basis. Large cash discounts are allowed on shoe materials and supplies purchased and it should be ascertained that allowances for such discounts have been made. With regard to labor, it is necessary to make a test of the amounts included in the cost estimates for the various labor operations with the actual amounts paid for such operations, most of which are on a piece-rate basis. With regard to the allowance in the cost estimates for burden, it is necessary to check the basis of distributing the overhead, the rate used and the calculation of the rate. The allowance made for the various overhead expenses, in determining the total to be distributed, should be checked against the actual costs of such items and the nature of each item entering into the total carefully considered, to determine whether each item is a proper part of the inventory value of the finished shoes or not. It should be ascertained that such items as interest on merchandise or plant investment have not been included in the inventory valuation. A special investigation should be made to determine that no inter-company or inter-departmental profit has been included in the inventories or that a special reserve has been provided for the elimination of such profit.

In checking the inventory of work in progress the stage of each pair of shoes has to be considered, and it is necessary to see that only the material and labor put into the shoes up to the particular department in which the shoes are at the date of the
inventory are included in the valuation. The overhead rate is usually not separated by departments, and in applying overhead all of the shoes in process are generally considered as being on an average one-half completed, and 50 per cent. of the overhead on the completed shoes is added to the material and labor on the shoes in process.

## Future of the Industry

Shoes are as essential to the civilized world as food and clothing and there will always be a normal demand for footwear. In the United States the demand for shoes has probably reached its peak for on the present population and any material increase in the purchase of shoes in the United States in the future will probably depend on population increases. Our shoe manufacturers must look to the foreign markets to obtain any large increases. At the present time the sale of American shoes in foreign countries is more or less curtailed by the higher cost of manufacturing shoes in this country. Before any large advance in foreign sales can be made it will be necessary to get the costs of our shoes down to a point where we can meet the competition of shoes made in other countries where cheap labor is used. The people of some foreign countries must also be educated to the use of shoes such as are used in the United States before we can look for any large foreign demands for our shoes.

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## STATEMENT

## Re Acknowledgments for Quotations <br> in Thesis on Shoe Manufacturing Industry

In preparing the Thesis on the Shoe Manufacturing Industry, proper acknowledgments have been made therein for all quotations, whether from copyrighted or non-copyrighted material.

With the exception of statistics, no quotations were used verbatim. The facts and data obtained from various sources were assembled and then worked into the Thesis, couched in different language and cannot be identified as being the work or language of any definite author.
G. C. Shannon,

Author.
St. Louis, Missouri, September 11, 1931.

# Working Capital in Public-Utility Regulation 

By W. A. Paton<br>Conception of Working Capital in Unregulated Field

In the competitive field accountants and others concerned usually define working capital from the so-called "proprietary" point of view. That is, working capital, or net working capital, is that portion of the funds represented by current assets which can be said to have been contributed by the proprietors (in the case of the corporation, the stockholders). Or, to put the matter negatively, working capital is that portion of the funds represented by current assets which can not be accounted for by reference to the current liabilities. Thus working capital is defined, from the point of view of source of capital, as embodied in current assets.

This conception and method of measurement, further, depends upon certain rather arbitrary juxtapositions. It assumes:

1. That the fixed liabilities are never responsible for any part of the current assets-doubtless not universally true.
2. That the current liabilities are never responsible for any part of the non-current assets-a not unreasonable position in general.
The foregoing raises the question of definitions of current and fixed assets and current and fixed liabilities. With respect to the first class, current assets, accountants generally include without hesitancy the following:
3. Cash on hand or in banks.
4. Readily marketable securities held in unrestricted form.
5. Accounts and notes receivable.
6. Inventories, including supplies.
7. Prepayments-insurance, rent, etc.

It is recognized that these groups are not all liquid to the same degree. It is also recognized that in particular cases items attaching at first sight to these classifications may be excluded from current assets for special reasons. For example, cash received through sale of securities and awaiting use for construction purposes can not be classed in the current group without distortion. The same is true of cash in restricted funds which is to be used to retire fixed indebtedness. Securities held in sinking funds and other restricted form, however marketable intrinsically, can
scarcely be viewed as an element in current position. Likewise securities which are not liquid, though held in unrestricted form, are not current assets. For example, a long-term bond receivable, with no ready market available, and not maturing for some years, is non-current. Similarly, accounts and notes may be ruled out of the current group in some cases because of their non-liquid character; and the same is true of inventories. Prepayments running for more than two years, at the outside, are fixed rather than current assets.

In defining "capital assets" for income-tax purposes the treasury department takes the position that as a rule assets held for more than two years, and meeting the other conditions laid down by the department, are capital assets.

In measuring and presenting working capital in the competitive field, standards are often referred to, but no effort is made to modify the amount of such capital in any case in the light of some standard. For example, if a concern has an exceptionally large amount of cash in the bank or a large amount of marketable securities in its portfolio, available for current purposes if needed, the concern is said to be in a strong working-capital position, but in reporting its status no adjustment of working capital downward is attempted.

## General Conception of Working Capital in Regulated Field

In the railway and public-utility fields the general conception of working capital differs in at least two particulars from that held in the competitive field. In the first place such capital is conceived, not from the proprietary or stockholders' point of view, but from the standpoint of the entire economic capital involved (at least to the extent of the amount contributed by contractual as well as proprietary investors). Second, in any determination involving the question of rates the working capital to be ascertained is the reasonable or necessary amount which, in view of all the circumstances, should be allowed for this element, rather than the actual amount as shown by an examination of current assets at the time the determination is being made.

## Treatment of Current Liabilities

The basic and most difficult question involved in the measurement of public-utility working capital-a question singularly
neglected in the discussions of this question-is the treatment of current liabilities or floating debt. Undoubtedly in most utilities a considerable part of the total economic resources devoted to the enterprise is continuously represented by trade creditors' accounts, accrued payroll and other current obligations. And it follows that the fact that this element is in effect contributed by the current creditors relieves the stockholders and bondholders from the necessity of furnishing as large an amount of capital as would otherwise be required of them. For example, if the total economic resources required amount to $\$ 200,000$, and the current creditors, under the credit conditions and financial arrangements prevailing, can be relied upon continuously-once the business is thoroughly launched-to contribute $\$ 20,000$, it is obvious that this reduces the total capital required of the long-term investors to $\$ 180,000$, or 90 per cent. of the entire amount needed to take care of the requirements of the enterprise.

Are, then, the investors in the utility to be allowed to earn a rate of return on assets or resources which require no sacrifice on their part and for which they are not responsible? There is undoubtedly something to be said by way of argument on both sides. The general nature of the agrument in the negative is indicated by the form of the question as stated. On the face of the proposition it appears rather unreasonable to neglect to deduct current liabilities from current assets required in computing fair working capital for rate purposes, as this seems to be tantamount to permitting the stockholders to earn something over and above a fair return on the fair value of their investment. The revenue rates allowed, it can be argued, should be sufficient to cover all reasonable operating expenses and a fair allowance on the amount contributed by the long-term investors, but they need not be sufficient to cover such expenses and a reasonable rate of return on the total economic wealth or capital employed, regardless of its source. Further, it can be contended that the current creditors, in view of existing financial methods, do not ask for a net return on their contribution but only a repayment from time to time and item by item of the principal amount contributed, and that therefore nothing need be included in revenues in the nature of such a net return. And if any element is so included, by means of any regulatory decision, it will go not to the parties who perhaps have some claim upon it, the current creditors, but to those who have no such claim on any basis, the long-term investors.

As a matter of fact there is good reason for saying that the prices paid for materials and services obtained from the current creditors implicitly include an element of net return on the capital thereby furnished by such creditors. A creditor who sells a bill of materials at a net price in ten days of $\$ 1,000$, for example, presumably includes in such price, in the average case, a reasonable interest allowance. That is, in paying the bill of $\$ 1,000$ the buyer pays the cash cost of the materials and interest on such cash cost for ten days. In allowing rates sufficient to cover all operating costs and a net return to regular investors as well, therefore, the regulating authority is in effect allowing the enterprise to earn the immediate cash cost of materials and services furnished by current creditors plus an implicit interest charge on such cash cost for the average credit period-all in the form of operating expenses. But under this assumption, it can still be maintained, the operating net which is required should be restricted to the net return on the capital elements furnished by the regular investors, those explicitly entitled to participate in net earnings as ordinarily defined, as all other requirements are taken care of under operating charges. In other words, again there seems to be indicated the conclusion that the net revenue after operation logically contains no reward for that part of the capital represented by current creditors' claims and that the amount of such claims is therefore an offset to the necessary gross working capital, or total current assets required, in defining and measuring the rate base.

To illustrate, suppose that in a particular case the total economic resources involved amount, on the average, to $\$ 200,000$ and that the sources of these resources are: capital stock, $\$ 100,000$; bonds, $\$ 80,000$; current liabilities, $\$ 20,000$. Suppose, further, that a 7 per cent. return on total resources committed is considered reasonable in this case, which gives a required amount of $\$ 14,000$. If now it be deemed that operating expenses so-called include the necessary return on current creditors' capital committed, at an implicit rate of, say, 6 per cent., the net return after expenses is $\$ 14,000$ less $\$ 1,200$ ( 6 per cent. of $\$ 20,000$ ), or $\$ 12,800$, a return of 7.11 per cent. on the total stock and bond capital of $\$ 180,000$.

Despite the considerations indicated above, however, the case for the deduction of current liabilities in ascertaining working capital as a rate base is by no means conclusive. The problem simmers down to the question of the underlying definition of net
return as reflected in the attitudes and decisions of courts and commissions. It is clearly established that in measuring fixed or plant capital the method of financing or capitalization is deliberately ignored in the calculation of the rate base and the rate of return. That is, the amount of outstanding funded debt is not deducted from asset values in determining the fair value of the property for rate purposes; and the fact that part of the capital may be obtained at a relatively low interest rate, with the consequent possibility of thereby enhancing appreciably the rate realized on the stockholders' investment, is taken into consideration in setting the rate of return, not through an adjustment of the value of the property. When it is determined, for example, that a fair rate of return is 7 per cent. on the entire property devoted to public service, it is recognized that if the capital structure is represented by 6 per cent. bonds to the extent of 50 per cent. thereof the possible rate of return on the stock interest of 50 per cent. (assuming no current indebtedness for the moment) is increased to 8 per cent. In rate determination per se there is no effort made to restrict "trading on the equity": this question is directly dealt with only in reference to the approval of general capital structures and particular security issues in financing programmes. But it is to be assumed that the regulatory agencies, in setting up fair rates of return, take into account in a general way the possibilities of increasing the rate on the stockholders' interest in terms of typical or standard programmes of distribution of capitalization between contractual securities and stocks.

So far as short-term notes or other obligations carry explicit interest which is treated as an income charge-a charge to operating net-the current creditors involved are evidently in essentially the same position as long-term creditors, and the operating net so determined includes a return on capital represented by this element in current liabilities. In such circumstances it would obviously be improper to deduct the amount of such liabilities from what would otherwise be the rate base, if it be assumed that return to capital is to be conceived as net income prior to all explicit interest charges. However, accounts payable, payrolls accrued and current obligations generally, outside of bank loans and similar items arising in short-term financing, seldom carry explicit interest, as has already been pointed out, and any implicit interest involved is included in operating expenses before
the balance is struck which must be considered from the standpoint of fair return. What conception of net return is involved in public-utility regulation at this point? Do the courts and commissions in setting rates of return take into consideration the fact that an element of total economic resources is typically contributed by current creditors who do not explicitly participate in net earnings as recognized, and that the return allowed on the total economic resources devoted to public service, over and above the operating expenses allowed, must be tinctured by the fact that an appreciable part of the resources involved are contributed returnfree, at least from the standpoint of the conventional arrangement of income-sheet data? This is the crux of the whole question and undoubtedly there is room for debate on the point. There has been little or no discussion of it included in the statements of the regulatory bodies with respect to fair rates of return in specific cases. Usually the court or commission is content to give the minimum non-confiscatory rate determined by reference to a background of generalities as to current money costs, special risks attaching, etc., with no attention to problems of the type under consideration here. The records do show, however, that in calculations of working capital presented to the authorities and accepted by them (perhaps with some modifications) as a basis for decision, attention is usually concentrated on the question of the essential current resources in the form of cash, supplies, etc., which are required by the enterprise if it is to function effectively, regardless of the source of such current elements. On the other hand there are numerous cases in which it has been held, at least by implication, that bills payable should be canceled against current receivables in the calculation.

Two special points, of limited theoretic significance but of some practical force, may be mentioned. In the first place the amount of cash required in established public utility is probably not much augmented by the fact that materials, for example, are purchased "on time" rather than paid for on the instant of delivery. That is, the amount of invoices requiring settlement each day or week, under a credit system, is not apt to vary much from the amount of invoices coming in from day to day or week to week under a strict cash-on-delivery system. Second, accrued liabilities such as payrolls under ordinary accounting procedure are represented immediately in operating expenses rather than in current assets on hand; hence it would be quite improper to deduct the amount of
such liabilities from the total of essential current assets in measuring working capital for rate purposes.

All in all, the case for deduction of current non-interest-bearing obligations in ascertaining effective working capital as an element in the rate base does not seem sufficiently conclusive to warrant stressing such procedure in setting up the estimate of property value in the specific case.

## General Methods of Measuring

A study of rate cases discloses the fact that rather arbitrary methods of measuring working capital, with the emphasis upon the "necessary" and "required" amount rather than upon the amount as shown by the concern's record of current assets, have been widely adopted. Methods of estimate based on the amount of periodic operating expense have been in particular favor. It is submitted that attention might well be paid to the amount of working capital actually used by the enterprise, on the ground that this furnishes as a rule the best evidence of the amount required in all the circumstances. Generally speaking the operating management is the best judge of the need for cash, materials and supplies, etc., and it is to be assumed that the management will adopt a billing practice which is sound in all the circumstances and will push the collection of receivables as rapidly as possible. Especially in view of the fact that current working assets commonly have little earning power apart from their significance as elements required for successful operation, the management can generally be relied upon to see to it that cash, supplies, etc., are not needlessly accumulated. It should be remembered that in measuring the rate base the fixed assets actually in use are generally given consideration, rather than some arbitrarily determined standard layout, although assets of an obsolete type in use may be valued on a different basis from that employed for up-to-date property.

It is suggested, therefore, that the average amount of current assets employed by the business over a reasonable period-say a monthly average for a couple of years-as shown by the records, and assuming adjustment for unusual items not associated with true working capital position, and assuming materials and supplies properly valued, furnishes satisfactory evidence of the amount of working capital to be allowed in the rate base. Such an estimate should be supported, however, in all unusual circum-
stances, by reference to the recorded experience, on some appropriate unit basis, of other representative concerns in the same field.

## Treatment of Cash and Liquid Securities

Cash received through sale of securities and on hand awaiting use for construction purpose, retirement of fixed obligations and other non-current purposes is not generally deemed to be a factor in working capital. Cash on hand which can be said to represent funds being accumulated for interest and dividend payments is a more doubtful case. It is impracticable, of course, to pay interest charges and dividends from day to day and it can be urged that funds being accumulated to meet periodic interest and dividend requirements represent an essential feature of utility operation broadly conceived. Certainly the clerical and accounting expenses arising in interest and dividend disbursements are regularly included in operating expenses, and the stock of office supplies which must be carried for this purpose is admitted to be an element in working capital. It would seem, accordingly, that capital tied up in cash essential to the making of dividend payments is as truly a part of allowable working capital as capital tied up in the office supplies which are required.

The argument on the other side of this question is based on the theory that it is unfair to allow the utility to earn a return on the capital devoted to public service and at the same time permit a return to be earned on funds representing the fair return itself as they are awaiting disposition to investors. This is plausible, but involves setting up a rather artificial point in the activities of the enterprise. It can be urged that placing the return in the hands of the stockholders and other investors is an inevitable and essential feature, viewing the matter realistically, and that any sum of capital which must be continuously contributed to facilitate effective handling of this matter is just as much a part of the capital devoted to public service as any other increment in the total necessary capital committed.

The view that temporary investments in idle funds in the form of marketable securities can count as a part of working capital for rate purposes is not widely held among utility experts. It seems easier as a rule to justify the inclusion of a commercial bank account, even though it may show a larger average balance than bare necessities require, than it is to justify the inclusion of a
fund whose unnecessary character, at the moment, is demonstrated by its investment in securities. At the same time the adoption of a strict attitude on this point by the regulatory body is scarcely to be supported. Money out on call, or invested in high-grade readily marketable securities, is just about as available as purchasing power as is the commercial bank balance. It may be good business, in fact, to place the second line of cash defensea line perhaps considered absolutely necessary from the standpoint of the integrity and position of the business period by period -in immediately liquid securities and loans yielding a somewhat higher rate than can be obtained on commercial bank deposits. It does not follow that such funds are removed from working capital and the rate base. It is entirely a question of what amounts in cash and immediate cash equivalents experience shows to be needed. Assuming that this requirement can be approximated by a careful study of the records and reference to other situations, it does not matter what concrete form the funds take so long as they can be made immediately available as purchasing power if desired. Incidentally it should be remembered that not all of a commercial bank account is actually available; the free balance is only that part of the account in excess of the minimum average amount required by the bank as an evidence of responsibility and as a part offset to the cost of service rendered by the bank. In other words, in estimating the cash element of working capital a reasonably liberal and realistic interpretation of the feasible financial arrangements involved should be adopted.

Funds accumulated to retire long-term indebtedness-whether in the form of trust funds, bank accounts or otherwise-are regularly excluded from current assets, as stated earlier. It perhaps does not follow indisputably that they should be excluded from the total rate base. They are, of course, not being devoted to public service in any technical sense and they are an element in current position as ordinarily conceived. Assuming, however, that the operation of a utility in the best manner involves the use of sinking funds for long-term debt, and that the earnings on such funds are typically at a lower rate than the rate paid on the outstanding bonds, it could be argued that the element in total required capital representing the average sinking-fund status is a necessary element and is entitled to a return (and that the earnings of the fund should be included in income as a part of the utility's revenues). An obvious objection to this assumption
is based on the fact that regular or irregular serial retirement either through call or market operations is a distinct possibility and may in fact be preferable from a business standpoint to a longterm accumulation at a low rate of interest. Further, refunding is an important alternative to the use of the sinking fund. Certainly the public can not be expected to pay a return on retired capital or on funds liberated from operation which may be used for such retirement or may be voluntarily invested in a field other than public service with a view to utilization for debt amortization or some other purpose.

## Treatment of Receivables

There has been a great deal of discussion of methods of billing and collecting and the valuation of receivables as an element in working capital. Some hold that only the costs of production involved in accounts receivable are a part of the rate base, on the ground that to include the income element would involve requiring the public not only to pay a return on the actual capital involved but also on the profits implicit in the situation-double counting. This position, assuming ordinary accounting methods and adoption of the conventional interpretation of net return, is fallacious in rate cases. If the customer has been billed and revenue has been credited-the almost universal practice-the income element involved in the billing has been acknowledged to be earned, and it becomes an element in the net operating revenue the adequacy of which is in question in the rate adjudication. That is, once the concern has recognized the income involved, and it becomes an element in the figure of net return which is to be applied to the rate base in determining the propriety and fairness of such return, the funds representing such income from an asset standpoint are indisputably a part of the rate base, provided only that they are tied up in essential aspects of public-utility operation. As to this latter question there can be no doubt of the impracticability of securing instantaneous payment of all billings. There is bound to be a lag, which should, however, be no greater than is inevitable under sound business methods. In other words, the typical utility must secure from some source, continuously, an element of capital to take care of this lag, and such element is just as clearly and fully a part of effective working capitalassuming sound practices-as any other increment of capital involved.

To settle any lingering doubt on this question, one need only consider the effect of further steps in accounting for gross revenue and receivables. The item of net return involved in crediting revenue in an account billed (preferably exclusive of regular discounts allowed) may pass into net income and into surplus before the account is collected. However, when collection takes place the item from an asset standpoint may become a part of the normal bank balance or the cash may be used to expand (in view of legitimate needs) inventories or other assets devoted to public service. Accordingly it can be insisted that unless it be assumed that net earnings devoted to bona-fide operating purposes can not be considered a part of the rate base, it is clear that acknowledged net earnings devoted to carrying accounts receivable in a necessary and proper way can be included in effective working capital.

If the position indicated here is adopted it follows that nothing can be included in working capital as a special item to cover costs of accounts not yet billed and credited to revenue. If such costs are in the form of supplies or other deferred charges, they will appear in the working capital computation under the appropriate heads. If such costs-as is usually the case-have been charged to operating expenses even though the billing has not been taken care of, the amount of them becomes a charge to gross income and registers its effect on acknowledged net income through a reduction of this figure below the amount which would appear if expense accruals and gross revenue accruals were on a completely concurrent basis in the accounting records. Accordingly, and unless there is to be a revolution in accepted accounting methods at this point and a corresponding redefinition of net return by the regulatory bodies, there is no equity in attempting to include in working capital the estimated cost incurred in billings not made, since this cost either appears under other heads or has already been charged to the revenue which is to furnish a basis for the comparison of earning power and fair value with a view to disclosing the propriety of such earning power.

## Treatment of Inventories

Assuming proper business practices-which generally should be assumed unless there is definite evidence to the contrarythe principal question with regard to the inventories of materials and supplies is that of valuation. Book records must be checked by more or less complete examination of the inventories, and care
must be taken to see that worn and obsolete materials are not included or are included at the minimum valuation indicated by the circumstances.

A minor question that arises here-which has had some attention in rate cases-is that of classification. Should materials carried, which will be devoted to new construction, be included in working capital? The answer is that it does not matter greatly whether they are included or not, provided such materials are required for legitimate programmes and have been purchased wisely. That is, the amount of materials necessarily on hand for necessary construction, like work in progress, represents essential capital expenditure and hence is a part of the capital to be included in the rate base. As a matter of convenience it is probably advisable, in the absence of unusual circumstances, to include this item under current assets rather than fixed assets, especially since a specific and complete separation of materials into items to be devoted to maintenance and items to be devoted to new construction is seldom feasible. In the construction of an entirely new plant, of course, the return on capital in progress is usually provided in a backhanded way through the allowance for interest during construction, and it can be argued that capital tied up in relatively minor additions during the necessary period from date of expenditure to date of turning over to public service should be taken care of in a similar manner rather than through the operating net return per se.

## Treatment of Prepayments

Ordinary prepayments such as insurance premiums are an element in working capital. Long-term advances, essential to operation, are likewise to be viewed as a factor in total capital invested, but are not highly current working capital. Advances to the concern by customers and others represent a special liability which accounts for a part of the capital of the enterprise. On the face of it, such contributions should be treated as an offset in the working capital (or fixed capital) computation, although in strict logic this conclusion may be somewhat debatable, as was indicated above in the discussion of ordinary current liabilities.

## Treatment of Earnings on Funds

In conclusion reference must be made to the problem of treatment of interest and other direct earnings which may accrue on
current assets that are generally considered as elements in working capital. Bank accounts may draw interest. Call loans and liquid securities have an earning power. Interest is occasionally charged on receivables (and allowed on payables). It is maintained that the fact that such earnings are present does not afford a proper basis for the exclusion of the earning assets-or any portion of them-from working capital. Such earnings, however, should be credited to operating income, so that the favorable effect of holding certain current assets is recognized in the net return which is to be compared with the rate base. If this is done the operating net return as recognized is increased by such earnings and it then becomes equitable and proper to treat the total of the assets involved, without adjustment, as elements in the working capital base. This, of course, assumes that the assets under consideration are clearly legitimate elements in view of the needs of operation.

# Students' Department 

H. P. Baumann, Editor<br>AMERICAN INSTITUTE EXAMINATIONS

[Note.-The fact that these solutions appear in The Journal of AccountANCY should not cause the reader to assume that they are the official solutions of the board of examiners. They represent merely the opinions of the editor of the Students' Department.]

> Examination in Accounting Theory and Practice-Part II
> May $13,1932,1: 30$ P. M. to 6:30 P. M.
> The candidate must answer the first three questions and one other question. Answer no more than four questions.

No. 2 (24 points):
At December 31, 1930, the "Investments" account on the general ledger of the X Company showed a balance of $\$ 83,400$ made up as follows:

| Company | No. shares Common | Cost |  |
| :---: | :---: | :---: | :---: |
|  |  | Date | Amount |
| U. S. Steel Corporation. | 100 | Apr. 7, 1930 | \$19,800 |
| General Motors Corporation | 100 | " 10 " | 5,400 |
| X Company. | 200 | "، 14 " | 10,000 |
| Y Company. | 600 | " 18 " | 42,000 |
| Z Company. | 100 | " 21 " | 6,200 |
|  |  |  | \$83,400 |

At this same date, a "Reserve for loss on investments" account was carried. This account had a credit balance of $\$ 36,900$, constituted as follows:

| U. S. Steel Corporation | \$ 6,900 |
| :---: | :---: |
| General Motors Corporation | 1,900 |
| X Company | 1,000 |
| Y Company. | 24,000 |
| Z Company . | 3,100 |
|  | \$36,900 |

The market prices of three of these stocks were:
December 31
19301931
U. S. Steel Corporation. . . . . . . . . . . . . . . . . . . . 13940

General Motors Corporation . . . . . . . . . . . . . . . . . 35 . 22
X Company. . . . . . . . . . . . . . . . . . . . . . . . . . . . . $45 \quad 20$
No market quotations of the stocks of the Y and $Z$ companies were available.
The common stock of X Company consists of 100,000 shares of $\$ 10$ par value. Its books, before adjustment, show an operating surplus of $\$ 3,000,000$ at December 31, 1930, and $\$ 2,800,000$ at December 31, 1931, indicating a loss from operations for the year 1931 of $\$ 200,000$.

The Y Company has 1,000 shares of no-par common stock issued and outstanding. On the books of this company, the common stock is carried at

## Students' Department

$\$ 10,000$ and the earned-surplus account shows a credit balance of $\$ 20,000$ at December 31, 1930, and $\$ 15,000$ at December 31, 1931.
Statements of the $Z$ Company indicate that its capital stock outstanding consists of 10,000 shares of $\$ 10$ par value, and that its surplus at December 31, 1930 , was $\$ 210,000$, and at December 31, 1931, $\$ 180,000$.

On May 12, 1931, the X Company sold 100 shares of its treasury stock for $\$ 3,500$, and on August 31, 1931, purchased 500 shares of its outstanding stock for $\$ 15,000$. On October 31, 1931, it purchased 100 shares of the American Telephone and Telegraph Company for $\$ 13,700$. The market price of this stock on December 31, 1931, was $\$ 120$ a share. On December 21, 1931, it sold the 100 shares of General Motors Corporation for $\$ 2,300$. All these transactions were charged or credited to the "Investments" account.

Indicate exactly how you would show the transactions, with their respective balances, in preparing the balance-sheet as at December 31, 1931, and also in the related statements of surplus and profit and loss.

## Solution:

In the following solution I have set up the "investments" and "reserve for loss on investments" accounts as at December 31, 1930, made and posted certain adjusting entries, and then journalized and posted the transactions for the year, in this way arriving at the balances needed for the statements at December 31, 1931.

Examination of the investments and reserve accounts in connection with the schedule of market prices and other data indicates that stocks were carried at market values where such values exist (U. S. Steel, General Motors, X Company), and at book values otherwise ( Y and Z Companies):

| Stock | Shares | Cost | Carrying value |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  |  |  | Reserve | Total | $\begin{aligned} & \text { Per } \\ & \text { share } \end{aligned}$ | Market or Book $\dagger$ value |
| U. S. Steel. | 100 | \$19,800 | \$ 6,900 | \$12,900 | \$129 | \$139* |
| General Motors. | 100 | 5,400 | 1,900 | 3,500 | 35 | 35 * |
| X Company . | 200 | 10,000 | 1,000 | 9,000 | 45 | 45 * |
| Y Company. | 600 | 42,000 | 24,000 | 18,000 | 30 | $30 \dagger$ |
| Z Company.. | 100 | 6,200 | 3,100 | 3,100 | 31 | $31 \dagger$ |

Apparently there was an error of $\$ 1,000$ in setting up the reserve for loss on U. S. Steel, and this is corrected by the following entry:


To correct error in provision for loss on U. S. Steel stock.

The practice of the X Company of writing down its investments to market value (or book value where no market exists) is a well established one, and can not be criticized, except in the instance of the treasury stock. Even though the company is actively trading in its own stock-and two trades in an entire year can hardly be called "actively trading"-there are certain objections to carrying the stock on the asset side; such stock is not an asset in event of liqui-
dation, and the stock outstanding is misstated. For this reason the following entries are made:
a. Treasury stock-common ..... \$ 2,000Investments$\$ 10,000$To remove the treasury stock from the investmentaccount, and to set it up at par, writing off premium tosurplus.
b. Reserve for loss on investments ..... 1,000
Surplus ..... 1,000To reverse provision for loss on treasury stock.
May 12, 1931: ..... (3)
Cash ..... 3,500
Treasury stock-common ..... 1,000
Premium on treasury stock sold ..... 2,500To record sale of 100 shares of treasury stock.
August 31, 1931:(4)
Treasury stock-common ..... 5,000
Premium on treasury stock purchased ..... 10,000Cash15,000To record purchase of 500 shares of X Company stock,at 30 .
October 31, 1931 :(5)
Investments ..... 13,700
Cash ..... 13,700To record purchase of 100 shares of A. T. \& T.
December 21, 1931: ..... (6)
Cash2,300
Reserve for loss on investments ..... 1,900
Loss on sale of investments ..... 1,200
Investments ..... 5,400To record sale of 100 shares of General Motors (carriedat 35 ), for $\$ 23$ a share.

With reference to this sale an interesting point arises. The actual loss on this sale is $\$ 3,100(\$ 5,400-\$ 2,300)$, and this is the amount of the loss to be deducted for tax purposes; on the books, however, $\$ 1,900$ of the loss was reserved against in 1930, and the current year will be charged with only $\$ 1,200$. If the company is in the practice of recording actual profits and losses in the profit-and-loss account, and unrealized losses in surplus, an entry should be made reversing the reserve provision to surplus, and recording the entire loss of $\$ 3,100$ in the loss on sale of investments account; otherwise $\$ 1,900$ of the loss will not have been reflected in the profit-and-loss account.

If, however, actual gains and losses, as well as unrealized ones, are recorded directly in surplus as being extraneous in nature, nothing is gained by such a procedure; this is the basis of this solution.

At December 31, 1931, it is again necessary to examine the investments to determine the proper valuation; the following schedule may be prepared:

| Stock Shares | Cost | Reserve | Carrying value | Market or book value per share | Total | Decline |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| U. S. Steel. . . . 100 | \$19,800 | \$ 5,900 | \$13,900 | \$ 40 | \$ 4,000 | \$ 9,900 |
| American Tel. |  |  |  |  |  |  |
| \& Tel....... . 100 | 13,700 |  | 13,700 | 120 | 12,000 | 1,700 |
| Y Company... 600 | 42,000 | 24,000 | 18,000 | 25 | 15,000 | 3,000 |
| Z Company. . . 100 | 6,200 | 3,100 | 3,100 | 28 | 2,800 | 300 |
|  |  |  |  |  |  | \$14,900 |

Unrealized loss in investment value.
$\$ 14,900$
Reserve for loss on investments.
To increase the reserve for loss on investments to give
effect to the market or book values at December 31, 1931.
After all of the foregoing entries are made and posted, the accounts affected (except cash) will appear as follows:

## Investments

| Dec. 31, 1930-balances: |  | Dec. 31, 1930 (2a).. | \$10,000 |
| :---: | :---: | :---: | :---: |
| U. S. Steel. | a \$19,800 | Dec. 21, 1931 (b)...... b | 5,400 |
| General Motors. | b 5,400 |  |  |
| X Company. | c 10,000 |  |  |
| Y Company. | d 42,000 |  |  |
| Z Company. | e 6,200 |  |  |
| Oct. 31, 1931-(5) |  |  |  |
| American Tel. \& Tel. . . | f 13,700 |  |  |

## Reserve for loss on investments

Dec. 31, 1930-balances:

| Dec. 31, 1930 (1) | a \$ 1,000 | U. S. Steel. . . . . . . . . a | \$ 6,900 |
| :---: | :---: | :---: | :---: |
| Dec. 31, 1930 (2b) | c 1,000 | General Motors . . . . . b | 1,900 |
| Dec. 21, 1931 (6) | b 1,900 | X Company......... c | 1,000 |
|  |  | Y Company......... d | 24,000 |
|  |  | Z Company . . . . . . . e | 3,100 |
|  |  | Dec. 31, 1931 (7)...... a | 9,900 |
|  |  | d | 3,000 |
|  |  | e | 300 |
|  |  | , | 1,700 |

Surplus
$\begin{array}{lllr}\text { Dec. 31, } 1930 \text { (2a) . . . . . . . } \$ 8,000 & \text { Dec. 31, 1930-balance. . } & \$ 3,000,000 \\ & \text { Dec. 31, } 1930 \text { (1) . . . . . } & 1,000 \\ & & \text { Dec. } 31,1930 \text { (2b) } . . . & 1,000\end{array}$
Dec. 31, 1930 (2b) . . . . . 1,000


| Less: |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: |
| Over-provision for decline in value of U. S. Steel stock. |  |  |  |  |
| Provision for loss on treasury stock now reversed. | $1,000$ | \$2,000 | \$ | 6,000 |
| Surplus as adjusted, December 31, 1930........ . |  |  |  | 94,000 |
| Deduct: |  |  |  |  |
| Loss from operations. . . . . . . . . . . . . . . . . . . . . . . . . \$200,000 |  |  |  |  |
| Premium on treasury stock purchased. . . . . . . . $\$ 10,000$ |  |  |  |  |
| Less premium on treasury stock sold. . . . . . . . . | 2,500 | 7,500 |  |  |
| Loss on investments sold. . | \$ 1,200 |  |  |  |
| Decline in value of investments on hand | 14,900 | 16,100 |  | 223,600 |
| Surplus, December 31, 1931 |  |  |  | 770,400 |

The profit-and-loss statement would not show any of the results from the security operations.

No. 3 (22 points):
The X Company sells a loose-leaf service for $\$ 115$ and contracts to issue to customers renewal and replacement pages semi-annually on April 1st and October 1st, for $\$ 15$ per annum.

The initial purchase price covers the original publication and one year's renewal pages, and customers are billed in advance for each subsequent year's renewal pages on the anniversary dates of the original sales.

The company's books at December 31, 1931, showed the following transactions:

Sales of original publication (uniformly 200 sets a month), 2,400 sets
(a) $\$ 115$
\$276,000
Sales charges for renewal pages, 4,500 sets @ $\$ 15 \ldots . . . . . . .$. . $\$ 67,500$
Sales of original publication for preceding years were-

| 1927 | 50 sets a month |  |  |  |
| :---: | :---: | :---: | :---: | :---: |
| 1928. | 75 | " |  |  |
| 1929. | 100 | " | " | " |
| 1930. | 150 | ، | " | ، |

The production cost of the original publication was $\$ 30$ per set and that of renewal pages $\$ 2.50$ per semi-annual issue.

The company credited the foregoing sales of both categories to profit and loss, in closing its records for the year 1931, in accordance with the uniform practice since the initiation of this particular department.

As auditor, would this procedure meet with your approval? State what modifications you would suggest, showing the actual gross profits from both sources for the year 1931 and the adjustments applying to other periods.

## Solution:

The X Company has been overstating its annual profits in anticipating the unearned income arising from the billing of the renewal pages of its loose-leaf service, (1) in billing for one year's renewal at the date of the shipment of the original publication, and (2) in billing for subsequent renewals on the anniver-

## The Journal of Accountancy

sary dates of the billing for the original publication. The income for the original publication should be taken up in the year in which it is shipped, for presumably the cost of such shipment is charged into the accounts at the time of shipment. Following the same principle, the income from renewals should be considered as earned at the time of shipment, at which time the cost of these sales should be recorded.
On this basis, the original charge of $\$ 115$ may be apportioned as follows:


As the company has correctly taken into its accounts the income arising from the sale of the original publication, we may confine our examination to the correct treatment of the income from the sale of renewal pages.
Since the monthly sales are uniform, one sale per month is used in the following table which shows the allocation of each month's sales during a year.

Charges for renewal pages-1931

| Month billed | Earned |  |
| :---: | :---: | :---: |
|  | 1931 | 1932 |
| January. | \$15.00 |  |
| February . | 15.00 |  |
| March | 15.00 |  |
| April. | 7.50 | \$ 7.50 |
| May. . | 7.50 | 7.50 |
| June. | 7.50 | 7.50 |
| July. | 7.50 | 7.50 |
| August. | 7.50 | 7.50 |
| September. | 7.50 | 7.50 |
| October. |  | 15.00 |
| November. |  | 15.00 |
| December |  | 15.00 |
| Total. | \$90.00 | \$90.00 |

It will be seen from the above table that the income from sales during January, February and March will be earned during the current year, as the renewal pages will be shipped on April 1st and October 1st of the current year. The income from sales during the months of April to September inclusive, will be divided equally between the current and the subsequent year, inasmuch as one shipment of the renewal pages will be made on these contracts at October 1st of the current year, and the other, on April 1st of the following year. The income from the sales of October, November and December will not be earned until the following year, when the shipments will be made on April 1st and October 1st.



| $\left\lvert\, \begin{aligned} & \text { 荡 } \\ & \text { 筑 } \end{aligned}\right.$ | Oio io | － | ¢ | ＋ |
| :---: | :---: | :---: | :---: | :---: |
| 品 |  |  | \％ | \％${ }_{\text {\％}}^{6}$－ |




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Apparently, one-half of the year's billings is earned in the year billed, and one-half in the subsequent year. On this basis, the schedule (in sets) appearing on the preceding page may be prepared.
From this schedule, it would appear that the earned income of the company has been overstated in the past, and that the sales price of 3,450 sets of renewals should be deferred. The journal entry reflecting the necessary adjustment based on the foregoing schedule, follows:

Adjusting entry

| Surplus (1927)-300 at \$15 | \$4,500 |
| :---: | :---: |
| Surplus (1928)-450 at 15 | 6,750 |
| Surplus (1929)-600 at 15. | 9,000 |
| Surplus (1930)-900 at 15. | 13,500 |
| Profit and loss |  |
| (1931)-1200 at 15. | 18,000 |
| Deferred renewal sales |  |

To set up collections for 3,450 sets to be delivered in 1932, and adjust profits of 1931 and prior years.
The actual gross profits for the year 1931 are shown in the following statement, using the unit costs of $\$ 30$ and $\$ 5$, and sales prices of $\$ 100$ and $\$ 15$ for the original publication and the renewal pages, respectively.

The X Company
Statement of gross profit for the year ended December 31, 1931

|  | Sales | Cost of sales | Gross profit |
| :---: | :---: | :---: | :---: |
| Original publications-2,400 | \$240,000 | \$ 72,000 | \$168,000 |
| Renewal pages-5,700. | 85,500 | 28,500 | 57,000 |
| Total. | \$325,500 | \$100,500 | \$225,000 |

## Correspondence

## CLASSIFICATION OF ASSETS

Editor, The Journal of Accountancy:
Sir: There are many lessons, mostly unpleasant, which may be learned from the course of security prices in the last three years, but there is one which, while it seems clear, has not been, so far as I am aware, discussed by writers on accounting theory.

It is generally conceded that whatever else it may indicate the course of security prices does show the majority opinion of the business and financial world and that, right or wrong, this opinion is expressed with complete sincerity, for the average man may put forward and maintain opinions on many subjects for sentimental reasons but he does not often make his investments on that basis. If he invests in a common stock at prices which past earnings do not justify and the most optimistic anticipation of future profits would hardly warrant, he does so because he really believes that these things will come about, not that he thinks they should come about or that it is right for them to come about. Similarly when the price of a share has been reduced to less than what has been previously paid in dividends in one year the price goes down because investors believe, let us hope wrongly, that profits will not be made for a considerable length of time and that the payment of dividends will be deferred for a still longer period. As a result of this attitude we have the spectacle of stocks selling at only a fraction of their conservative book value.

In these cases it has been the fashion to say that a certain stock selling for $\$ 10$ a share has $\$ 9.50$ of current assets behind it and that therefore the fixed assets are valued by the market at only fifty cents a share, while the book value of the fixed assets is, say, $\$ 20$ a share. Such a statement seems to me to be a misinterpretation of the attitude of the investor or trader. The investor does not buy stocks on a liquidation basis. If he did, the calculation of so much current assets per share and the ascribing of the rest of the market value to the plant might be logical, but the investor knows intuitively or by the application of sound business principles that he has no more chance of getting his proportion per share of the current assets than he has of receiving a wheelbarrow load of bricks from the building or a few cogwheels from the machinery. He knows that the company in which he buys stock will continue in business even though it should go into receivership and that he is buying, not a share in certain assets, but a share in a deferred and at present uncertain future income.
This action of the market seems to justify the position taken in my article "Current assets in the going concern" published in The Journal of Accountancy in July, 1928, in which it was pointed out that the real division of assets was between those which are necessary for the conduct of the business and those which are free for disbursement to stockholders without affecting the conduct of the business. Of those assets which must be retained in the business, some, such as plant and buildings, are retained in their original form until they are worn out. Others, such as raw materials, cash and accounts receivable, constantly change their form, although the investment remains substantially
the same. This makes our present balance-sheet division into fixed and current assets thoroughly illogical and at times misleading, but this is forced upon us by the attitude of the banker who insists on looking toward liquidation rather than at the business as a going concern. To drop the illogical distinctions between fixed and current assets does not imply losing any of the advantages of the attempted distinction. A logical separation of assets would be into fixed and circulating, the test for inclusion in the one or the other being the convertibility of the asset and its forming a part of the cycle starting with the purchase of raw materials and the payment of wages and closing with the collection of the accounts receivable. It is, of course, interesting from every point of view to know that the circulating assets of a company are sufficient to take care of the quick liabilities which provide those assets. What is objectionable is the assumption that circulating assets are not as fixed and permanent an investment in the business as those assets the physical form of which does not change. A necessary cash balance can no more be distributed than can the land on which a plant is built. When conditions warrant, another group might cover assets not necessary to the conduct of the business, and it could be made perfectly clear that the circulating and fixed assets are merely divisions of one group which together represent the investment without which the business could not function.

The attitude of investors in the stock market is based, consciously or not, on the theory expressed in the article mentioned. They know that there are no more current assets, so-called, in the companies in which they are investing than are needed for the conduct of the business; they know that in most cases these so-called current assets are insufficient and that with continued losses this condition will become aggravated and that regardless of excess of current assets over current liabilities their position as stockholders and potential receivers of dividends will not be improved until those companies accumulate, through earnings, assets which are in excess of those required to operate the business.

It was somewhat disappointing to read in the January, 1932, number of The Journal an article by Anson Herrick in which he seems to range himself on the side of the banker by agreeing to the anomalous distinction between fixed and current assets, while suggesting a few revisions of the theory as to what is usually included in current assets. It is surely time for us to attempt to break away from the impossible and illogical situation into which we are forced by applying liquidation principles to going concerns and to come out boldly and say that assets are either invested in the business or are unnecessary to the conduct of the business. Merely to say that they might be turned into cash without stating whether that cash must be immediately reinvested or may be disbursed to stockholders is an evasion of an issue which present conditions emphasize.

> Yours truly,

Maurice E. Peloubet.
New York

# Book Reviews 

## BASIC STANDARD COSTS, by Eric A. Camman. American Institute Publishing Co., Inc., New York. 232 pages.

Cost accounting has experienced two distinct stages of development: the first in which emphasis was placed on so-called job costs (sometimes termed "actual costs"), and the second in which attention has been concentrated on so-called standard costs (sometimes termed "pre-determined" or "estimated costs"). Now comes Mr. Camman with an explanation in book form of what may prove to be a third distinct stage of cost-accounting development-the use of what he calls "basic standard costs," wherein "standards as measures" are substituted for "standards as ideals (or estimates)."

This distinctive method, which the author has expounded in lectures and articles for several years, is almost as different from the earlier forms of standard costs as standard costs in turn were different from job costs. The plan calls, not only for a different type of standards, but for different and additional uses of the cost-accounting information obtained. The book is a comprehensive and explicit description of the method and what the author believes to be its uses and advantages.

Briefly, Mr. Camman's theory is that "standard" costs shall be calculated, not in terms of expected costs, but merely as basic measures for making cost comparisons; that actual costs shall be stated at all times and in all details as ratios to these measures; that expected (or estimated) costs, and other budgetary features, shall also be stated as ratios to the measures; and that results shall be analyzed by determining the sources and amounts of differences between actual and standard, expected and standard, and (thus) actual and expected.

Furthermore, instead of carrying the cost-accounting transfers through the books of account on the basis of pre-determined standard costs (as is commonly done under the earlier type of standard cost procedure) Mr. Camman's plan calls for recording the transactions at "standard" merely in memorandum form, while making the cost transfers on the books at an "actual" figure, determined by calculation from the prevailing ratios of actual to standard.

The effect of the procedure is to concentrate the attention of the analyst and the executive on ratios as indices of variations from standard (and from the expected or budgeted costs) and to express the general accounting results in aggregates developed from ratio analysis, rather than aggregates composed of numerous individual items and transactions taken at specific costs and amounts.

The book is essentially a description of the plan in operation. After two introductory chapters explaining the differences between job costs, "ideal" standard costs, and "basic" standard costs, the author proceeds to the details of accounting under his plan for labor, for factory expense, and for materials; digresses briefly to comment on problems of spoilage, graded products, and joint products; then gives a comprehensive explanation of the analysis of variations in profits under the basic standard cost plan. After this, he submits a recommended account classification and suggests the form of the accounting entries, and in conclusion gives attention to the problems of determining normal capacity and of pricing inter-plant and inter-department transfers.

One need not agree fully with the author's view as to the advantages of his method to profit greatly from reading the book. Many will have doubts as to the possibility of universal application of the method and even of its unqualified superiority in particular cases. It may be objected, for example, that where the job-cost plan dealt with one set of figures, and the "ideal standard" cost plan with two sets, Mr. Camman's method calls for three sets, to say nothing of the apparently unlimited number of ratios which may be developed from them. It will certainly be difficult for an inexperienced cost accountant to keep his head amid the distractions of actual costs, expected costs and standard costs; and it will need be a keen and studious executive who can reason quickly to a correct conclusion from every ratio and variance disclosed, except after a thorough schooling in the significance of the figures. Further, there seems to be danger that unless the accounting work is in the hands of persons of thorough training, superior intellect and discriminating care, mistakes of serious amount may easily find their way into the general accounts without the possibility of prompt and certain detection.

No matter what may be said, however, it will probably be conceded by the most skeptical that the method represents the furthermost point of advance in cost-accounting procedure of the present day. Whether or not it will largely supersede cost accounting of the "ideal standard" type, every accountant should familiarize himself with the fundamentals of the method and its uses. The author's insistent emphasis on the study of variations, and his procedure for isolating the effects of volume variances, price variances, etc., are important enough in themselves to justify a careful reading of the material by every accountant. The ability to interpret and deal with variances and variables is being recognized more and more as an indispensable part of an accountant's technical equipment, because it is an essential feature of all budgeting, planning, and control.

The book is to be studied, not to be read casually. A good working knowledge of job-cost and ordinary standard-cost procedure is important to its full appreciation. For the reader who is willing to apply his mind to a rather complicated problem, the author makes progress as easy as such things can be. He goes directly from point to point, with a wealth of specific explanatory detail forming an integral part of his exposition. The style is clear and forthright, the argument logical and convincing, the arrangement orderly and coherent.

The chapter on the accounting classification and accounting entries seemed to me the least satisfactory portion of the book, made needlessly complicated and not so clear at all points as other sections of the book. Fortunately this material is least essential to an understanding of what the author has attempted to convey. Some enlightenment in the matter of how to calculate "expected" performance in precise ratio to "basic standards" would be a welcome addition to the explanations.

The publishers evidently gave the author a free hand in the matter of illustrations. The text is full of them, and several supplementary charts have been included in an envelope in the inside back cover, so that they may be removed and spread out for reference as the text is studied. The book must have been exceptionally costly to produce, and the publishers are entitled to a vote of thanks for coöperating so well with the author in giving adequate presentation to a difficult subject.

Howard C. Greer.

LAW FOR LAYMEN, by Harold Dudley Greeley. American Institute Publishing Co., Inc., New York. 347 pages.
If it be possible to justify the reviewing, by a layman, of a work on law it must be on the principle: "The proof of the pudding is in the eating." Not the expert who knows how a pudding should be made, and just what ingredients it should contain, but the one for whom it is prepared is the ultimate judge of its worth. So it may well be that Law for Laymen may be tasted by a layman, who may report on its savor and on its digestibility, perhaps on its stimulating and nourishing effect.
Tasting the book the layman finds it has a pleasant savor-and that is indeed a recommendation for pudding or for book. Its introductions, with which most of the chapters begin, are interesting and stimulate further interest in the subject; the substance of the chapters is concisely set forth and is not so highly seasoned with bits of legalistic erudition as to offend the uninformed. The scope of the book is comprehensive; its arrangement orderly. And the publishers have presented it in attractive form, garnished with pleasing typography.
The book takes up in sequence various phases of commercial law: contracts, agency, sales, negotiable instruments, and so on, all in the orderliness of rather strict conventionality. In this respect it seems nourishing rather than stimulating.
While the book is apparently intended primarily for accountants, the author is in no sense acting as a mere coach for the examinations in commercial law given by the Institute. A considerable proportion of the questions thus asked require information not contained in this book. To state this limitation is to commend the author, not to condemn him.

Acting on the author's request for suggestions as to possible improvements, attention is called to three matters of especial significance to accountants. The statement (\$912) that salaries paid to partners under agreement, "of course, are merely drawings against profits" seems incorrect. It does not cover an agreed on salary paid when there are no profits. This can not be a distribution of profits, but effects a reapportionment of capital.
In the same paragraph the author, doubtless through inadvertence, states that in dissolution, after loans made by the individual partners to the firm have been paid, "the amount of the capital contributed by each partner is repaid to him." Not the amount contributed, but the amount remaining after apportioning losses (if such have occurred) is to be paid each partner. And in some cases, despite the phraseology of the law, even a partner's loan would not be paid offhand, by a prudent trustee, where the situation, because of losses, was such that payment of the loan might imperil the claims of the other partners.

The statement, though often found in textbooks, that "a dividend is a portion of the corporate profits distributed to a stockholder," is objectionable in two respects. If a dividend is a portion of profits, there can be no such thing as a dividend paid from other sources, and the prohibition of "dividends out of capital" is a crass solecism. Furthermore the statement is too sweeping. Dividends have not only been paid out of paid-in surplus, but such payments have been sanctioned by high authority.

With some hesitation, but relying on "advice of counsel" even a layman may question the statements that a tenant's refusal to pay rent constitutes "adverse

## The Journal of Accountancy

possession" ( 8602 ) and that the person asking the appointment of a receiver must have some "valid title" to the property ( $\$ 1404$ ).

In the suggested revision the author is urged to be more generous in giving formal definitions of legal terms, and more careful in their use. A corporation is defined as "a group of individual persons . . . "" and there are listed as instances of corporations "light, heat and power plants" ( $\$ 1001$ ). It taxes the intellectual agility of the layman to conceive of a steam boiler and an electric generator as "a group of individual persons."

For thus responding to the request for suggestions for improvement, this layman expects the author's gratitude. Especially so, as, amid many merits, it is a laborious task to pick out a few flaws. And the finding of an occasional plum-pit does not prove that the pudding is not a meritorious concoction.

Henry Rand Hatfield.

## PETROLEUM DISTRIBUTION ACCOUNTS, by Joseph Johnson. Gee \&

 Company, Ltd., London, England.Here is a book from England that those of us in America who are interested in the subject of distribution of petroleum products-or the distribution of any other commodity-from bulk stations or warehouses to retailers may read with profit. It furnishes an excellent example of bookkeeping and accounting control. We find that the leading distributing companies in the United Kingdom are members of a "combine." They sell only to reputable dealers and commercial consumers under certain association agreements. The dealers own the service stations.

In discussing the subject from the American viewpoint, it might be well first to outline the organization of a large American oil company. It may consist of ten departments, namely: (1) production, (2) natural gasoline, (3) pipe line, (4) storage, (5) refinery, (6) tank car, (7) marine, (8) marketing, (8a) plant sales, (8b) bulk station or warehouse sales, (8c) service station sales, (9) other operating departments, (10) administrative. The British transactions dealt with in Mr. Johnson's book may be compared, in the main, with our American (8b) bulk station or warehouse sales.

Although the area of Great Britain is little over one-third that of Texas, it is thickly populated, and, doubtless, for that reason the marketing territory is split up into divisions. The book under consideration is a word picture of a division office at work. Matters of policy, system, standardization of methods, sales promotion, etc., are directed by the head office. This leaves the division manager and his assistants free to attend to sales in conjunction with the depot staffs, the accountant directing all clerical work at the division office.

Each division consists of a number of depots whence drivers, after filling up their tank wagons, go their respective routes to replenish dealers' stocks. Drivers' cash tickets are different from credit tickets, which makes for ready sorting at the division office. At the close of the day each driver delivers to the depot office his collections together with sales tickets and a recapitulation of sales on a driver's return. A depot cash report together with drivers' returns and tickets are sent daily to the division office. The division office sends the head office daily a cash summary and a list of sales gallonage by depots. At the close of the month the trading accounts and cash remittance accounts are

## Book Reviews

closed into "head office current account," a condensed analysis of which with supporting schedules of essential information is sent to head office.

The book, amply indexed, consists of 120 pages, the first 66 being devoted to explanatory text and the remainder to forms and illustrations, the final page giving two alternative methods in graphic form showing the flow of information from the drivers' tickets through the various records to the division general ledger. Mechanical methods, in view of the fixed handicap of carrying accounts in sterling, are ingeniously utilized, and each step in the office work is planned for speed, accuracy and control until the day's work is analyzed as called for by the system.
The author addresses himself to a particular branch of the industry and while explaining the accounting procedure he does not overlook the opportunity to give us some interesting sidelights on marketing conditions, taxes, "pirates" and other things.

If it be true that clear and well instructed records admit of ready audit, the traveling inspector from the head office seems to have an easy job checking this division and its depots. The author of Petroleum Distribution Accounts has made a valuable contribution to the lean library on the accounts of operations within the oil industry.

H. G. Humphreys

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