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Depreciation.

By H. W. Wilmot, C.P.A.

That the mind dwells with more pleasure on "Appreciation" than on such topics as Superannuation, Antiquation, Exhaustion and Obsolescence, our practical experience with clients has most likely demonstrated to us all; but though the atmosphere of this subject "Depreciation," may not be altogether exhilarating, Mr. Stockwell's paper on this subject submitted at the recent annual meeting of the American Association of Public Accountants held at Denver has succeeded in furnishing us with certain fresh points of view in a novel manner. So much has been written about "Depreciation" that it is not easy to introduce a new phase of the question, and we are very much indebted to Mr. Stockwell for his interesting treatise.

In discussing the points brought forward, the best plan will be to follow Mr. Stockwell's own divisions.

Legal Requirements.

First, then, as regards the "Legal Requirements," it seems that whenever the various state enactments approach this matter of the responsibility of directors to provide for the expiry of values, the phraseology is most ambiguous. Accountants evidently had no hand in drafting these laws. Certain states (as for example, Maine) require that companies shall not by means of dividends "reduce their stock below its par value." What these words were meant to convey, it is difficult to say. The ordinary business interpretation probably is that the capital assets, in respect of which the stock was issued, must remain for the protection of the creditors, i. e., they must not be turned back to the proprietors so as to damage those who gave credit on the supposition that its assets were (at all events legally) of a certain declared value.

The laws which have been referred to in other states, e. g., Iowa, Massachusetts, Michigan, etc., emphasize the impropriety of directors distributing among the owners the few assets that are left after they know that their company is unable to meet its debts. This, obviously, does not in any way deal with the maintenance of the capital assets.

The state legal requirements bearing most closely on "Depreciation" seem to be those of Delaware, Montana, North Carolina,
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New Jersey, New York, etc., in which it is laid down that dividends shall be declared only out of “net profits arising from the business.” If through the operation of fixed assets and the turning over of the current assets, additional assets have been acquired, these will not form additional security to the creditors; but on the other hand, only these assets can be returned to the proprietors. Dividends may be declared only out of that wealth which has been acquired by trading operations and which, therefore, can be withdrawn and yet leave the parent wealth intact; but it can hardly be read into the law that this parent wealth must be maintained out of “Revenue by Depreciation Charges,” before the proprietors take anything out of the business. There appears to be practically no obligation imposed by the law on anyone to maintain capital assets at their original value.

The courts, on the contrary, have commenced to take a stronger position on the question, and in at least two recent cases, decided opinions have been expressed in line with the accounting and sound business principles with which we are familiar.

In the case of George W. Hill et al. vs. Antigo Water Company, the Railroad Commission of Wisconsin held that in determining what is the fair value of public utilities for rate making purposes, “the original cost of construction, the cost of reconstruction new, the cost of reconstruction new less depreciation” were among the elements which constitute evidence.

The decision goes on to say: “Depreciation may be described as the amount that must be regularly set aside to cover wear and tear, etc., in order to keep the original investment intact. It is an operating expense and should be borne by the customers through the rates paid by them for the services rendered by the utility. But when depreciation is so borne by them, it should be set aside until needed for the renewal of worn out or useless parts of the plants. If under these conditions it is not so set aside and used, but diverted to the stockholders for their use or personal benefit, this diversion is tantamount to the payment of dividends out of the capital.”

And again: “Since depreciation, in a sense, is intended to keep the investment intact, it necessarily follows that by turning it over to the stockholders, a part of their capital is in reality returned to them, and that this in turn, is reducing their investment in the plant.” This decision (which is of considerable
length) will be found most interesting by those who come in contact with the question of the valuation of public utilities for rate making purposes.

The other case is that of the Jamaica Water Supply Company vs. the State Board of Tax Commissioners. The decision in this test case serves as a general guide in determining the valuation of a special franchise for tax purposes. On behalf of the state and the city, it was argued by the corporation counsel that the method for valuation was generally to find the net earnings, then to value tangible property, deduct from the net earnings a fair return on the present value of the tangible property, and by this process of elimination, determine the portion of the earnings derived from the franchise. Then to capitalize that portion of the earnings on a basis which business men familiar with the proportion regard as a fair return. The principal thus found measures the value of the intangible franchise right.

The New York Court of Appeals expressed the opinion that the assessing officers were not bound to adopt any particular rule or method of valuation, but gave general sanction to the method of appraisal founded on the earning capacity of the property.

In the application of this method, the court considered, among other questions, whether depreciation should be included in operating expenses, and held that "judicial notice may be taken of the fact that in the conduct of many industrial enterprises there is a constant deterioration of the plant which is not made good by ordinary repairs and which, of course, operates continually to lessen the value of the tangible property which it affects. The amount of this depreciation differs in different enterprises, but the annual rate is usually capable of estimate and proof by skilled witnesses. No corporation would be regarded as well conducted which did not make some provision for the necessity of ultimately replacing the property thus suffering deterioration; and we cannot see why an allowance for this purpose should not be made out of the gross earnings in order to ascertain the true earning capacity."

The amount of the depreciation is correctly called an "estimate," but these estimates should in theory be safeguarded in every possible way. The regulations governing public service corporations in New York adopt the excellent plan of requiring the regular amortization reserves to be based on the estimates
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of the officials. These estimates are to be accompanied by sworn statements of the facts and expert opinions upon which the estimates are arrived at. It would be a good thing if this idea could be extended to industrial companies by throwing the responsibility of declaring the economic life of each class of plant on the directors or officials. A company declaring an overextended life would, in course of time, stand condemned, and (as has been suggested by a recent writer) no responsible engineers would be found to stake their reputation on such declarations. Eventually, a standard for each kind of undertaking would be established, and the present extraordinary state of affairs, under which dividends may legally be distributed without proper provision for depreciation being made, would pass away.

Various Theories.

Among the "various theories" mentioned by Mr. Stockwell, there will be found advice which is very sound regarding the correct attitude of the professional accountant toward the statement he is auditing. The statement is that of the company, and the English Companies Act of 1907 lays emphasis on this by making the directors append their signatures to the balance sheet. The accountant is in the position of a judge expressing an opinion as to the correctness of the balance sheet, but he is not responsible to the shareholders or to the creditors for the policy pursued by the directors, who may even decide, if they so wish, that no provision whatever shall be made for depreciation. Even in Great Britain the auditor who insists upon a proper depreciation charge is probably going outside his statutory rights, but both in the United States and in Great Britain the auditor finds in practice that he can bring considerable influence to bear towards the adoption of a proper scheme and the provision of a fair sum to meet exhaustion of value.

The certificate, on the other hand, is emphatically that of the auditor, and before signing it, it is his duty to study the phenomena of depreciation, and (bearing in mind that the question is far from being a matter of accountancy only) to avail himself of all opportunities for discussing them with the directors or engineers.

In doing this, he will be met with a variety of theories. Mr. Stockwell has set forth three which have been lately propounded
by weighty authorities. Of these the first, viz., that "the question of the formal depreciation charges to operating expenses is simply a question of what constitutes cost of operation," will commend itself to the majority here. Depreciation has actually taken place and must be a part of the working expense of the business. There is no escaping the incidence of this loss of the capital assets, and sound business policy requires that the amount of this loss should be estimated without any reference to the result of trading. It should represent the loss of value of the plant or equipment, which occurs whether trading is profitable or not, and if depreciation is set aside out of a figure called "profit," it should be made clear that this profit is "before charging depreciation," which should then be clearly deducted.

Wear and tear has been defined as "diminished values arising from use," while depreciation goes further, including "a shrinkage in value" arising from use, lapse of time or the obsolescence arising from the progress of new inventions. Repairs, renewals, wear and tear and depreciation are, however, akin to one another and must be considered as a whole, for undoubtedly the repair or renewals of important units of plant considerably extend the "life" of the plant and thus affect not only the basis of calculating the depreciation rate, but the rate itself. While the "life" of the plant must be largely a matter of opinion and the expenditures on repairs and renewals must be taken into consideration in estimating it, it should not be forgotten that in the case of the majority of the units of plant, the tendency to obsolescence is the main factor to be considered. Not only is nature at work but also science. Nature is constantly "breaking up to put together in other forms," and no amount of expenditures on up-keep can postpone forever the day when science will take away from the asset its earning power.

The usual methods of providing for this shrinkage in value are: (1) one reserve to cover repairs, renewals and depreciation; or (2) a fixed annual charge; or (3) a fixed percentage on the original value; or (4) a fixed percentage on the diminished value. These methods are mentioned merely in order to point out that the fixing of a percentage on the original cost sometimes omits the consideration of important factors such as distance traversed, time operated, quantity of production. Recently we have seen the production of giant industries, and the gross earn-
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ings of large railroads greatly reduced, and it cannot be supposed that either plant or equipment can depreciate at the same rate when working at half time as when working overtime. For this reason it will often be found a good plan to base the estimate for depreciation on the tonnage output, or in the case of a railroad on the ton mileage basis.

In this connection, attention is called to the recent rulings on the subject, viz., those of the Board of Trade of Great Britain on the allowances to be made by street railways in arriving at profits for income tax purposes, referred to by the Electric Railway Journal of September 25, 1909, in an article called "Rules on Depreciation in Great Britain." Between the Board of Trade and the Tramway and Light Railway Association, it was agreed that the "life" of the permanent way depends on the traffic thereon, and thus the average car-mileage per mile of track is the important factor in arriving at the "life," which is reduced in proportion as the car-mileage increases.

Under these rules, no allowance is made for expenditures on repairs or maintenance, but the annual depreciation charges may aggregate (over the life of the permanent way) the total cost of renewal plus the estimated repairs. These repairs may include renewals which occur at frequent intervals, and the estimate is to be based on the experience of the previous three years.

On overhead equipment, no depreciation is allowed, but all expenditures on maintenance and renewals are to be charged to operating expenses.

In the case of cars, the expenditures on repairs and renewals are considered to take the place of depreciation, except in special cases, where the circumstances admit of writing off depreciation as well as charging off all renewals. In these cases 7 per cent on the written down value is mentioned as a fair allowance.

In all cases where depreciation is allowed, a strict account is to be kept of the annual expenditures on renewals (and, in the case of tramway tracks, also of repairs) and replacements due to obsolescence, and of the amounts allowed for depreciation and obsolescence. Having these facts before them, the Income Tax Commission will consider a readjustment at the end of every five years.

Plant, machinery and workshop tools are to be bulked
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together and 5 per cent per annum allowed in addition to the cost of repairs.

In support of the theory recently propounded by an eminent railroad president, "that there is practically no depreciation on a railroad because an overhauling of the various parts of equipment is made periodically, at which time they are restored to a condition as good as new," there is more to be said than might first appear. Undoubtedly, the management of railroads in the United States has been on the whole conservative in recent years. Many roads have been practically reconstructed out of revenue, and in this sense it may be true that the appreciation has offset depreciation.

As far as depreciation is concerned, a railway does not materially differ from an industrial concern, but by reason of the enormous variety of the items constituting its plant, it is quite possible that renewals out of revenue may be ample within any special allowance for depreciation. The main object in view is to make a proper charge to revenue for exhaustion or consumption, and whether this is obtained by expenditures or renewals liberal enough to cover all consumption, or is made by a depreciation reserve to which certain of the renewals are chargeable, is not important as far as the final result is concerned.

Railroad directors have, however, been in some cases, guided rather by what the property can afford than by any fixed principles, and the discussion of depreciation reserves has arisen in its present acute form in the railroad accounting world from this same haphazard policy of "cutting the coat according to the cloth," or, as the mauvaises langues say, "making the accounts suit the ticker."

Whatever basis be eventually adopted, accountants should protest against the amount of depreciation and renewals being regarded as merely a matter of policy. Directors are dependent on the advice of officials and have no means of knowing whether a settled policy is being pursued in good years as well as in bad, but, on the other hand, it is possible for officials of sanguine temperament to depart in bad years from the strictness observed in good years. Officials, again, are often guided in the matter by local conditions, as for example, in the case of a well-known public utility, where the principle of the accruing of renewals was not recognized until the question of reduction of rates arose.
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in the locality. Then, however, the ideas of the officials as regards depreciation became most liberal.

One phase of the question only lightly touched on by Mr. Stockwell is the practice of treating sinking fund installments as taking the place of depreciation charges. This practice seems to be on the increase, but it is usually overlooked that the amounts set aside for depreciation will some time have to be expended, and if they be not then represented by either cash or assets easily convertible into cash, one of the main purposes of providing the depreciation reserve is defeated.

In a new plant, the position may be somewhat different for the reason that a certain amount of depreciation, say, 25 per cent. of the total cost, will accrue before any expenditures are necessary and this amount will remain permanently in the depreciation reserve. Inasmuch as it represents a reduction from cost to the average condition of an efficiently maintained plant, it may never be spent. To this extent, it would seem to be in accordance with the prudent financing to allow that a sinking fund installment might be considered as in lieu of a total or partial provision for depreciation, but for any increase in the depreciation reserve beyond this amount, an extra provision will be necessary. To put the matter in another way, if a company be required to maintain its plant out of revenue, and also to pay off out of revenue a portion of the capital invested therein, the two provisions can be prudently merged only to the extent that the accrued maintenance represents a perpetual condition and that consequently no expenditures will be incurred to make it good.

Practical Difficulties.

Referring to the "Practical Difficulties" so ably dealt with by Mr. Stockwell, one of the greatest is to distinguish between the repairs and renewals chargeable against the revenue account of the year in which they are incurred and those which should not be so charged. This can be settled only after full examination of details and after discussion with engineers and taking into consideration the particular class of the undertaking. Full detail of the values of the various parts of plants ought to be available. The cost or present value of each class should be known and the amount expended on repairs and renewals on each class should be set out. Taking this information in conjunction with the estimated economic life of the various
classes of plant, the accountant, with a knowledge of the business
in question and with the co-operation of the company's engineers,
should be able to arrive at a fairly accurate opinion as to whether
the additional reserve for depreciation is reasonable.

Probable life is always a matter of opinion, but it is here that
the engineering skill of the works manager has its opportunity.
His experience should be sufficient to enable him to form a
sound judgment on the chance of the various classes of plant
becoming obsolete by the discovery of new methods and of wearing out by use. The experience of the accountant should enable
him to judge whether the manager's estimate is fair and the
"moral risk" a good one.

As regards Mr. Stockwell's concluding remarks on valuation,
we are familiar with the fact that "cost of property" frequently
does not represent such an investment as might be itemized into
units of plant. It is rather the legal cost from the point of view
of the history of the concern's financial construction, but this
historical record of the cost of the assets is not without impor-
tance, and the figure so arrived at is far less liable to variation
than that by any system of periodical valuation. There is nothing
to prevent the keeping of subsidiary records containing values
approximating those which a fresh appraisal would give. In fact,
some such basis is necessary in arriving at the periodical estimate
of "expired outlay," but it is difficult to follow the suggestion
that the cost should be adjusted to "the value at the time the
statement is made."

Value is a relative term. It frequently does not depend on
cost, but rather on earning capacity, which again depends not
only on the rate of profit, but the methods by which, and the
special circumstances under which, the profits have been earned.
Further questions, such as the probability of prospective profits,
the completeness and the situation of the plant, the relation of
working and borrowed capital to the capital outlay, have all to
be considered, not to mention the broader question of whether
the plant is to be valued as a unit "a going concern," or whether
prices are to be set on the component parts of the plant.

Most emphatically, the accountant should be able to see
behind figures and realize the facts, but this faculty he will
sufficiently develop in the course of his experience by visiting
plants and by observation as a general business investigator rather
than as a valuer. To the younger members of the profession,
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the suggestion may perhaps be made that their work will be greatly increased in interest by an intelligent inspection of properties. Nothing is more boresome to the practical business man than the attitude of an accountant whose mind runs solely on questions of book adjustment rather than on the solution of the problem, financial or physical, to be solved. Time spent in physical inspection of plant, machinery, materials and stores is, by no means, lost—it will materially assist the accountant in comprehending the practical side of the question.

On the other hand, a little knowledge is a dangerous thing, and knowledge thus derived can seldom be used by the accountant except in a general way—that is to say, to satisfy himself in the case of an appraisal that the general methods are sound. Recently, a company's buildings and lands in several large cities were valued at a certain large sum. On enquiry it was discovered that the valuer was a lawyer who, while no doubt a man of great experience and of undoubted integrity, could have done little more than form a snap judgment of the values as a whole. This kind of appraisal is not acceptable to bankers or investors looking for sound values, and in the case in question, the accountants were compelled to draw attention to the nature of the appraisal.

As to whether it will ever be advisable for public accountants to enter into a study of values of assets, there must be some doubt.

The accountant to-day takes a broader view of his duties than formerly, particularly in the United States, where the calls for self-reliance and independent action are urgent, but it must be remembered that the methods of appraisers have advanced as well as those of accountants and the day of guess-work is past. The collecting of information to prepare appraisals in detail, showing present reproductive cost and depreciation to date, calls for special attention and organization, and though the work may be interesting and possibly remunerative, it is questionable whether scientific appraising is the work of accountants any more than accountancy is the work of appraisers.

The scope of an accountant's work is so vast and in the United States is so new that it seems entirely unnecessary to go beyond its legitimate boundaries. The most experienced practitioners have found that there is considerable danger in seeking to ally with the profession the duties and responsibilities of other occupations not incident to or consistent with it.