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Tanning Industry Accounting

BY C. B. HOLLOWAY, C.P.A.

It would obviously be impossible to deal in one article with all the phases and ramifications incidental to a full and complete accounting system for a company manufacturing various kinds and grades of leather. The writer has therefore endeavored to confine his comments to the production of sole leather, which involves perhaps the simplest and most common methods by which hides are converted into leather.

Before entering upon a discussion of the accounting system and methods it might be well to describe briefly the nature of the operations and the chief difficulties which will confront us.

Raw hides are generally purchased in individual lots, the identity of which it may or may not be expedient to retain in manufacturing and selling. They are prepared for the tanning by a series of processes known as soaking, fleshing, unhairing, etc., which consist of soaking the hides in vats containing solutions of acid, lime, bate, etc., and removing the hairs from the outside and the fleshings (or particles of flesh adhering thereto) from the inside of the hides.

The hides are then laid in vats and covered with the tanning fluids and are left to absorb these liquids. At intervals the weakened or exhausted liquors are run off and fresh liquors run in. Each such process is known as a layer, and the number of layers, the length of time allowed for each layer and the strength and ratio of the ingredients of the liquors are controlled to a certain extent by the grade and quality of the hides under treatment.

After the hides have been sufficiently tanned, they are hung in lofts to dry and are subsequently put through certain finishing processes having to do chiefly with the rolling out and smoothing off of the hides which come from the drying lofts in a rough and unfinished condition.

The finished leather, after being weighed, is sorted by experienced inspectors into selling grades, which follow primarily the

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grade and quality of the original hides but are also affected by tanning conditions, scores and cuts in the hides, etc.

The time consumed in converting raw hides into sole leather will average from three to four months, and it can readily be seen that the investment in stock in process assumes considerable importance and that the tracing, recording and costing thereof present marked difficulties, the chief of which may be summed up generally as follows:

1. The difficulty of maintaining the identity of the raw hides through the stock in process and into the finished leather and of applying the raw hide costs to the finished leather inspected.

2. The difficulty of recording the movements of the hides from month to month and the accretion of their in-process value and of determining and absorbing into the cost of the finished leather inspected the proper proportion of the manufacturing cost accrued.

3. The difficulty of determining profits on individual grades and individual lots; inasmuch as one lot will be sorted into a number of grades, which in turn will frequently—through reinspection and elimination in selecting for shipment—be re-sorted downward between grades. With most companies it is necessary to carry large stocks of each grade, which militates against the frequent taking of physical inventories.

4. The difficulty of gauging market and stock-room requirements three to four months in advance for the purpose of controlling the purchase and feeding into process of the hides.

5. The difficulty, on account of the low grade of labor employed, of obtaining accuracy in reports and records emanating from the plants, which makes it essential that the requirements in this respect be of the simplest form and reduced to a minimum.

There are, of course, numerous other problems which arise, but an understanding of the foregoing, which are the more important ones, will serve to clarify the accounting suggestions to follow.

For the purposes of this article it is assumed that the reader is familiar with the principles and methods of handling and distributing payrolls, burden, miscellaneous stores and supplies, etc., and it is therefore not considered necessary to deal specifically with these features.

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As indicated above, the operating accounts group themselves primarily into:

- Raw hides,
- Hides in process,
- Leather graded into stock,
- Leather sold,

and for the purposes of this discussion it is assumed that the hides are purchased and worked through in individual lots, this being the method most commonly in use. In some of the larger plants, particularly where a considerable proportion of the hides is purchased in mixed or small lots, it is necessary to re-sort and re-grade the hides into new and larger series of lots, and this, of course, presents its own problems, particularly as to the shading of the raw hide purchase costs between the manufacturing lots in the re-grading. The lots are given numbers or letters, or a combination of both, which can be stamped or cut into the edge of the hides, and these marks become the basis for all records of movements in the plant, including the leather inspected into stock.

Raw Hides:

Under the individual lot system it is a fairly simple matter to keep a record of the raw hides prior to their being fed into process. Each lot would be charged into raw hides as received and credited out by a charge to hides in process as delivered to the first process. The balance on hand can be verified readily at any date by taking stock of the lots on hand by numbers and checking with the subsidiary lot records.

Hides in process:

The in-process values fall into two separate and distinct sections:

- Hide cost (cost of raw hides in process)

- Betterment cost (accretion of cost of manufacturing)

As in the case of raw hides unworked, the recording of hide costs in and out of process is readily obtained from reports of lot numbers on hides worked into the first process and inspected out of the last process. It should not be necessary to keep any

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records of the intermediate stages of operation as to this hide cost in itself, as distinguished from the betterment cost.

The accounting of betterment costs, however, presents greater difficulties. For obvious reasons it would be an almost herculean task to attempt to obtain accurate monthly distributions of costs between processes and by individual lots over the extended period of time required for converting the raw hides into finished leather. This difficulty can be obviated by the adoption of a series of betterment cost rates at the various processes or stages, which should be developed from tests and experience and can be revised at intervals if necessary. In most instances the size and weight of the hides will vary between lots to such an extent as to make it expedient to establish these rates on a "per pound" rather than a "per hide" basis. The distinction in weight, however, would be maintained only between lots and the average weight per hide of each lot would apply to all the hides contained therein. These rates serve the further purpose of enabling the cost of production per unit to be ascertained, since the betterment on a given number of hides at any process or stage can be converted into an equivalent in leather. In this manner the total betterment accomplished during a month or other period can be expressed in a single figure which will reflect not merely the betterment on leather sorted into stock, but also the production fluctuation for the month in the betterments in process reduced to an equivalent in leather.

Under a simple system it would be necessary to establish only two series of betterment rates: one for cow hides and one for bull hides. This distinction is essential because of the marked difference in the thickness and texture of the hides, the bull hides requiring a longer period and being more expensive to tan and finish than the cow hides. The movements of the hides in and out of processes would be reported daily by the lot numbers, which when identified with the raw hide records would establish the average weights and the distinction in betterment rates (whether bull or cow).

At the beginning and end of each month the subsidiary in-process records based on the daily reports would show the total

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number of hides in each lot at the various processes or stages and the application thereto of the respective "average weights" and betterment rates obtained from the rawhide records would provide inventory valuations, which would be sufficiently accurate for all practical purposes. In like manner, the leather inspected into stock would be valued at betterment rates based on actual weights and charged to leather graded into stock. On this basis the betterment cost account would be summarized monthly as follows:

Inventory—at beginning (calculated at betterment rates)

Add—Actual costs of tanning and finishing,

Deduct—Leather inspected into stock (calculated at betterment rates) and inventory at end (calculated at betterment rates)

Balance—Betterment profit or loss.

This profit or loss would be merely a reflection of the deviation in the actual costs for the month from the normal as established from tests and experience.

Leather Graded into Stock:

As the finished hides are inspected and sorted into stock, records would be kept showing the weights and grades obtained from each lot, and the leather account would be charged with the original raw hide costs obtained by lots and with the betterments thereon obtained by applying the respective betterment rates to the leather weights obtained from each lot.

When the leather has been sorted into grades a lot practically loses its identity and as it is generally expedient to have some basis of valuation for measuring the results obtained from the respective lots, the customary method is to value the leather for this purpose at current selling prices for the month. Some companies go so far as to charge the leather into stock at these current selling prices, showing the profit resulting therefrom in the current month's business in the nature of a profit on manufacturing and taking up the difference between the values thus obtained and the actual amounts subsequently realized in the sale or disposition of the stock as profits or losses on sales in the month in which the actual sales occur.

This method is open to severe criticism because it anticipates profits through valuing the stock at market instead of cost,

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whereas the same information could be carried for guidance on supplementary records without being incorporated in the main accounts.

The general principles outlined above can be amplified to meet the requirements of the larger tanning industries. The writer has made successful use of these basic methods in devising and installing a system of accounting for one of the larger tanning industries, which engages in the manufacture of sole, harness and saddle leather and deals in raw hides, tanning by-products, etc.