

ACCOUNTING METHODS FOR CASUALTY COMPANIES
BY USE OF THE HOLLERITH SYSTEM

BY

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The main purpose of this paper is not to give a detailed description of the Hollerith system of accounting but rather to emphasize certain uses of the system in accounting work which are somewhat out of the ordinary or not in general use.

The system is so well known to all casualty men connected with accounting in companies or bureaus that a description of its fundamentals is scarcely justified. However, for the benefit of those in our membership who may not be familiar with the system I will describe briefly some of the more important features.

BASIC RECORD

The basic record of any system of Hollerith work is the punch card. The standard card is $7\frac{3}{8}$ inches by $3\frac{1}{4}$ inches and contains forty-five spaces or columns. There are twelve positions in each column, the first two being designating or sorting positions and the remaining ten adding positions*. For accounting purposes the card is divided into so-called fields. The number of fields and the number of columns included in the fields are limited only by the physical limitation of the card. As a rule cards are designed to meet the particular kind of accounting (premiums, losses, etc.) to be provided for. Fields are of two distinct kinds, sorting or designating fields and adding or monetary (amount) fields. It is the general practice to use the left hand section of the card for the sorting fields and the right hand section for the adding fields. This arrangement is the most convenient as the sorting process precedes the tabulating process and it is of advantage to have the sorting fields grouped as much as possible.

The Hollerith card shown on page 216 will serve to illustrate the points brought out in the previous paragraph. This card which is designated as a "premium analysis" card is used for all accounting (and certain experience) data in connection with written

*On one form of tabulating machine all twelve positions can be used as adding positions.

Journal	Klnd	Identification No.	Number Policies	12		Term	Agent or Company	State	Policy Year	11		Premium	Amt. Ins. Nearest \$100.00 Wr. or Can.	23 24 25		1 2 3 4 5 6					
				Expiry Tr. No.	11					Class 10	Year			Year	Month	Month	Month	Month	Month	Month	
	00	00000	0	00	00		000	00	00	000	000000	00000	000000	000000	000000	000000	000000				
Journal	11	11111	1	11	11		111	11	11	111	111111	111111	111111	111111	111111	111111	111111				
A	22	22222	2	22	22		222	22	22	222	222222	222222	222222	222222	222222	222222	222222				
B	33	33333	3	33	33		333	33	33	333	333333	333333	333333	333333	333333	333333	333333				
C	44	44444	4	44	44		444	44	44	444	444444	444444	444444	444444	444444	444444	444444				
D	55	55555	5	55	55		555	55	55	555	555555	555555	555555	555555	555555	555555	555555				
E	66	66666	6	66	66		666	66	66	666	666666	666666	666666	666666	666666	666666	666666				
Re-ins	77	77777	7	77	77		777	77	77	777	777777	777777	777777	777777	777777	777777	777777				
Re-ins	88	88888	8	88	88		888	88	88	888	888888	888888	888888	888888	888888	888888	888888				
C	99	99999	9	99	99		999	99	99	999	999999	999999	999999	999999	999999	999999	999999				

PREMIUM ANALYSIS

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premiums in case of all lines of insurance written by the Ætna Life Insurance Company (Accident and Liability Department), the Ætna Casualty and Surety Company and automobile business written by the Automobile Insurance Company. This card will be referred to at a further point in the paper.

The first step in the process of Hollerith accounting is the transferring of the necessary data from the source to the Hollerith card. The individual Hollerith card when punched may be considered as representing or standing in the place of an individual entry in an original book of record of the day book or journal type, but does not take the place of any accounting record as it is not, from a practical standpoint, of a permanent nature. The storage requirements necessary to retain cards indefinitely would entail too heavy an expense.

SOURCES OF DATA FOR PUNCHING

In case of written premium Hollerith accounting the sources of the data are applications, renewal receipts, endorsements, cancelation and change sheets and miscellaneous or special forms. In the Ætna organizations it is the practice to use an original form, such as the application, as the basis of transcription wherever possible. An intermediate form is necessary for some lines such as fidelity and surety and in case of liability and compensation where several card records are necessary, such as audit, inspection, experience, expiration, collection, etc., it is advantageous to prepare all such cards, and an accounting card for transcribing to the Hollerith card, by the so-called "ditto" system. It is the practice of some companies to use an intermediate form exclusively as the source of written premium accounting transcription. This system has the advantage of releasing applications to the various underwriting departments with a minimum of delay but has the disadvantage of the expense of preparing the intermediate form in case of those lines of business where such form serves no other use than that of supplying data for Hollerith work.

Certain information such as kind of business, agent and state must be transcribed through the adoption of codes. As to whether or not the particular code numbers should be inserted on the form used as a basis for transcribing depends upon the practice of individual companies. If a company punches both accounting

and experience data on the same card or on separate cards but as consecutive operations, there is a certain advantage in having all information coded on the form as the punch operator does not have to go through the mental process of transferring to code or referring to a code in case of doubt as to the correct code number. In the Ætna organization the punching of cards for accounting and experience purposes are, with one exception, entirely separate and distinct operations and much of the data submitted for accounts punching purposes is not complete for experience punching purposes. Accordingly we furnish the operators with codes for kind of business, agent and state and rely upon them to select the proper code numbers. The code numbers are quickly memorized and we believe that this plan is less expensive than complete coding of data prior to receipt in the Hollerith department. I should point out that we have only about sixty agencies to consider for accounting purposes. If the number of agencies ran into the hundreds, it would be more economical to have the agency coded beforehand.

WRITTEN PREMIUM ACCOUNTING

Referring again to the "premium analysis" card illustrated on page 216, I will refer briefly to those fields which I believe may require some explanation. Before doing so I wish to state that I do not put this card forward as a model or worthy of imitation. I will state, however, that in my opinion, it is best suited to our own particular methods and requirements. I will refer to the fields according to headings:

Company. As we deal with the accounts of three companies it is desirable for us to devote a column to designate the company to which the item applies. Where a single Hollerith department handles the accounting work of two companies this column can be saved by using different colored cards or by using the eleventh and twelfth positions (generally known as the "X" and "Y" positions) in the first column of the identification number field.

Journal. This column is provided to indicate the kind of premium transaction for annual statement purposes (written, reinsurance, return and not taken), including the identification of payroll audit premiums for Schedule P purposes. The abbreviations stand for the following premium transactions:

R—Applications, renewal certificates, renewal receipts, and first year premiums on three year annual premium policies.

LT—Second and third year premiums on three year annual premium policies.

A—Additional premiums (other than payroll audit).

B—Payroll audit additional premiums.

C—Payroll audit refund premiums.

D—Return premiums (other than payroll audit.)

E—Not taken premiums (flat cancellations).

Reins W—Written reinsurance ceded.

Reins C—Canceled reinsurance ceded.

Kind. This field designates the line of business.

Identification No. This column requires no comments. I wish to say, however, that policy numbers should be kept down to as few digits as possible and the practice of starting a new series of policies with 1,000,000, 2,000,000, etc., should be discouraged. Six columns is a liberal allotment for policy numbers. This will take care of policy numbers running to 2,999,999 by double punching (*i. e.*, punching two positions in the same column) using the X and Y positions in the first column of the field to designate the millions. Double punching, however, should be avoided wherever possible.

Number of Policies. This column is for statistical rather than accounting purposes and is provided to furnish the number of written and not taken risks.

Expiry. The year and month of expiry are required for unearned premium reserve purposes. In case of companies computing this reserve on the semi-annual basis only the year of expiry is necessary.

Term. This column also is necessary for unearned premium reserve purposes.

Agent or Company. This field is used to designate the agent in case of direct business and the company in case of reinsurance assumed or ceded. In case of reinsurance assumed or ceded, company is required for state tax return purposes.

State. This field is required for state tax return purposes.

Policy Year. This field is used for the purpose of allocating

liability and workmen's compensation premiums to Schedule P by policy years.

Class. This is not an accounting field but an experience field and is used for recording premiums by classes in case of fidelity and surety business. Fidelity and surety experience being on a calendar year rather than a policy year basis, we are able, by inserting this field, to avoid the necessity of punching an extra set of cards for experience purposes.

Premium. This column requires no comments.

Amount of Insurance, etc. This column is used for accident business and further is necessary in case of our organization because of the requirement for showing the amount of automobile fire insurance in the fire annual statement blank.

Return Premiums. The return premium column requires no comments.

Premium Canceled. The canceled premium column is necessary for unearned premium reserve purposes.

Year—Month. The year and month is punched out for identification of the cards as to year and month which the premiums are put through the records. These columns are gang punched.

It will be noted that the card in question provides for both debit and credit premium transactions. Some companies use separate cards for debit and credit premiums and, owing to the limitation of the card, it is necessary to adopt this procedure where a company provides for both accounting and experience data on the same card. The advantage of having both debits and credits on the same card is that total debits and credits can be obtained for a particular tabulation by a single run of cards through the tabulating machine, whereas if separate cards are used two runs are necessary.

CHECKING OF CARDS

The method of checking employed by the Ætna organization is to have two sets of cards punched in different colors by different operators and compared individually by matching and holding up to the light. Some companies use a verifying machine for checking purposes. We have always favored the duplicate card system as practically the only additional expense as com-

pared with the verifying system is the cost of the cards and we also find considerable use for the duplicate set.

BALANCING AND CONTROL

After the duplicate sets of cards have been compared, they are run through a tabulating machine and balanced. Under our system, two methods of control of premium writings are in use. In some cases accounting control figures accompany the data submitted for punching while in others the control figures are furnished by the Hollerith department. Under both methods there is maintained a balance between the Hollerith and accounting departments. In some cases this balance is on a net premium (debits less credits) basis and without distinction as to line of business. In this connection I wish to emphasize that in my opinion it is of considerable value in the interest of economy to provide for a control balance between the accounting and Hollerith departments on the basis of a net total without distinction as to lines of business or kind of transaction, any further analysis of the net total being furnished by the latter department. This rule is followed wherever possible.

TABULATIONS

All accounting tabulations of whatever nature are made monthly. This is due in part to our practice of preparing rather complete monthly statements on the same basis as the annual statement. A monthly tabulation also has the advantage of overcoming peak loads in the tabulating work which result where certain tabulations are made quarterly, semi-annually or annually.

The first tabulation of the written premium cards is by line of business, by kind of premium transaction. The cards are first sorted by line of business and next by kind of premium transaction ("journal"). The journal groupings to produce the written premium entries for the general books are as follows:

Gross premiums written or renewed . . Journals R, LT,
A and B.

Return Premiums on policies canceled . Journals C and D.

Premiums on policies not taken Journal E.

Reinsurance written is a separate tabulation.

While the above journals as grouped represent in theory either total debits or total credits, in practice some or all will be made up of both debits and credits. This results from restorations or reversing entries. For example, if a policy is canceled at short rates, which would be a journal D transaction, and is later reinstated the second transaction would be a journal D transaction, the premium being entered in the debit premium column.

From the tabulated results statements are prepared and furnished to the bookkeeping division and postings are made direct from these sheets to the proper accounts in the general ledgers. The sheets are bound in loose leaf binders which are designated as written premium journals. The control totals previously referred to are posted to monthly sheets in a division of the accounting department and the accumulated totals balanced monthly with the Hollerith department totals.

I have gone somewhat into detail in explaining our method of arriving at the premiums written for the general books as I believe that the simplicity of the system warrants my bringing it to your attention. It will be noted that under this system the Hollerith results control the general books, but that a further control is maintained in the accounting department.

UNEARNED PREMIUM RESERVE

For tabulating the unearned premium reserve the cards, which, regardless of the last previous tabulation are in order by lines by journal groupings are further sorted by term and by year and month of expiry, the debit and credit journal groupings being preserved. The results are transferred direct from the tabulating machine to working reserve sheets, separate sheets being used for "written" (debits) and "terminated" (canceled premium credits). A copy of the working reserve sheet is shown on page 225. All items with expirations in the current month or prior are grouped and entered on the first line. These, of course, do not affect the reserve but are carried to the sheets for balancing purposes. The working reserve sheet results are transferred to the final reserve sheets and the net amount of premiums in force at the end of the month compiled. As the final reserve sheet is

a rather large size sheet it is not illustrated. The headings of the various columns, however, are as follows:

- Term
- Expiration
- Business in force (beginning of month)
- Business written (during month)
- Business terminated (during month)
- Business in force (end of month).

By using a perforated sheet and filing in a ring type loose leaf binder the part showing the business in force at the end of the month is torn off after the reserve is compiled and transferred to be used as the business in force at the beginning of the next month, thus doing away with the necessity of recopying.

The gross and reinsurance unearned premium reserves are computed separately and the results transferred to summary reserve sheets of substantially the same form as the Recapitulation of Premiums on page 7 of the annual statement blank.

The unearned premium reserve is computed on the semi-monthly basis in case of the business of the *Ætna Life Insurance Company* (Accident and Liability Department). The method used is that described by Mr. E. E. Cammack, Vice President and Actuary, *Ætna Life Insurance Company*, in a *paper presented to this society in 1915 and is as follows:

"A movable slip is prepared, as illustrated below, with the lines at the same distance apart as those on the unearned premium reserve sheet, with the fractions $1/24$, $3/24$, $5/24$. . . $23/24$ entered one below the other, expressed in decimals.

VALUATION FRACTIONS

<u>Premiums Expiring in</u>	<u>Fraction Unearned</u>
0— 1 month	.041667
1— 2 months	.125000
2— 3 months	.208333
3— 4 months	.291667
4— 5 months	.375000
5— 6 months	.458333
6— 7 months	.541666
7— 8 months	.625000
8— 9 months	.708333
9—10 months	.791667
10—11 months	.875000
11—12 months	.958333

*A system of analyzing Workmen's Compensation Business by Means of Perforated cards. *Proceedings*, Vol. II, page 90.

"This slip is placed beside a table of premiums upon policies in force classified by months of expiration, and the amount of premiums for each month is successively multiplied by the corresponding factor upon the slip by means of any standard calculating machine, the product after each multiplication has been made not being effaced from the machine. After the last multiplication has been made, the total on the face of the machine will be the computed amount of unearned premiums. Similar slips can be prepared for policies whose terms are 2, 3, 4, 5 years, etc."

REINSTATEMENTS

In discussing the tabulation of written premiums I referred briefly to reinstatements. Such items present difficulties from the unearned premium reserve standpoint. In our organization we handle this in a rather simple manner. Our rule is to disregard the reserve premium which should theoretically be reinstated if the policy expires in the current calendar year. In case of items with expirations subsequent to the current calendar year, a memorandum or blotter record is kept containing the necessary reserve data and the reserve premium to be reinstated. From this record a special set of cards are punched up following the end of the year. These are tabulated on separate working reserve sheets and incorporated with the balance of the end of the year reserve data in the regular reserve sheets.

The result of the above procedure is a slight understatement of the reserve during the year.

MISCELLANEOUS TABULATIONS

Some of the other more or less usual written premium tabulations are the following:

(a) Liability and compensation additional and refund premiums by policy years.

(b) Net premiums written by states by kinds of business.

(c) Premiums written by agencies by lines of business. (These tabulations can be made with a scope varying from net premiums written to premiums written subdivided into gross, return, not taken and net, or in case of liability and compensation, gross, miscellaneous additional, payroll audit additional, payroll audit refunds, return, not taken and net.)

(d) Reinsurance premiums written and ceded by states by lines of business by reinsuring companies.

(e) Reinsurance premiums in force by lines of business by reinsuring companies.

Part II of the New York Casualty Experience Exhibit calls for net premiums written on direct business. Home office reinsurance assumed presents no difficulty but where a company accepts reinsurance through branch offices or general agents, and such business is treated as agency business, the ordinary Hollerith card providing only a combination agency or company field does not meet the situation. It is therefore desirable to provide, if possible, separate fields for agency and company. We meet this situation by punching the agency in the "agent or company" field and the reinsured company in the "amount of ins." field.

TABULATION RECORDS

I have previously stated that all tabulations are made monthly. The various tabulations are transcribed monthly to summary cards, the postings being made direct from the tabulating machine. An illustration of the type of summary card used is given on page 228. An accumulative total is maintained so that any desired information in connection with our regular tabulations can be had at a moment's notice. An alternative method which is somewhat less expensive is to draw off the tabulations on the printing tabulator and punch master cards to be tabulated semi-annually or annually. We believe, however, that the advantages of our present method are worth the slight additional cost.

ORDER OF TABULATIONS

The order of tabulations in Hollerith work should be given careful consideration. Under an accounting system depending upon the Hollerith department for the written premium results, the first tabulation must be written premiums by lines by journal groupings. Of the remaining tabulations necessary for a monthly statement, the next in importance is the unearned premium reserve.

In the *Ætna Life Insurance Company* (Accident and Liability Department) our major written premium tabulations for compensation and liability insurance are the following:

- Premiums written.
- Premiums written by agents.
- Premiums written by states.
- Premiums written by policy years.
- Unearned premium reserve.

The tabulations are carried out in the order given and a study of this order, considering our grouping by journals, will show that the amount of sorting required is reduced to a minimum. I might add that as an extra check on our work the duplicate set of cards punched primarily for checking purposes is used for the tabulation by agents and the written premium results are not released to the bookkeeping division until a balance between the two sets is effected. In case of necessity the duplicate set could be used for still further tabulations.

AUTOMOBILE SUSPENSION ENDORSEMENTS

Before leaving the matter of written premiums and reserves, I will refer briefly to our method of handling the accounting in connection with automobile suspension endorsements during the suspension period. We make no book entries in connection with these endorsements but handle the accounting entirely through the Hollerith system. A record of all suspensions is furnished the Hollerith department as the endorsements are received by the underwriting department and a special card is punched with such of the usual accounting data as is necessary and with the exception that the year and month of suspension are punched instead of the year and month of expiration. The cards are then sorted by month of suspension and a reserve is built up to offset the reserve automatically taken down. For example: At the end of January our automobile suspension reserve sheets would show suspension premiums in force effective in November, December and January. We would compute the special reserves as follows: $5/24$ ths of the November premiums, $3/24$ ths of the December premiums and $1/24$ th of the January premiums. The premiums referred to are, of course, the annual premiums written in the policies. As notices of termination of suspension are received the Hollerith department receives a record and withdraws the original card from file. This method is extremely simple and avoids the necessity of putting any entries through the accounting records until the period of suspension is completed and the exact credit due the assured determined.

PAID PREMIUM AND COMMISSION ANALYSIS

Practically all companies find it desirable to compile a record of paid premiums and commissions by agencies. This is also

ÆTNA LIFE INSURANCE COMPANY
ACCIDENT AND LIABILITY DEPARTMENT

.....Compensation..... Department

Year 1925 State Vermont

Agent

	AGES WRITTEN	PREMIUMS WRITTEN	MISC. ADDITIONALS	ADDITIONAL EARNED PREMIUMS	MISC. REFUND PREMIUMS	REFUND PREMIUMS	FLAT RISKS	FLAT CANCELLATIONS	NET GROSS PREMIUMS	RANK
Jan.		437375		14664		5224		31906	414909	
Feb.		522429		327433		33027		145519	671316	
		<u>959804</u>		<u>474097</u>		<u>38251</u>		<u>177425</u>	<u>1086225</u>	
Mar.		502627	350	105356	5280	12876		24286	565871	
		<u>1462431</u>	<u>350</u>	<u>447433</u>	<u>5280</u>	<u>51127</u>		<u>201711</u>	<u>1652096</u>	
Apr.										
May										
June										
July										
Aug.										
Sept.										
Oct.										
Nov.										
Dec.										

necessary for most companies because of the requirements of the New York Casualty Experience Exhibit. Prior to September, 1923, it was the practice in our organization to spread the paid premiums and commissions on the paid premium journals by lines of business and to compile the agency results by hand methods. At that time we decided to handle practically all paid premium and commission results by the Hollerith system. We redesigned the paid premium journals to provide only a single column for premiums and a single column for commissions. Totals only of premiums and commissions are entered on the journals from the recapitulations of the accounts and the accounts are then sent to the Hollerith department where the premiums and commissions are punched out by lines and balanced to the daily control sheets accompanying the accounts. At the end of each month the premiums and commissions are analyzed by lines of business and statements furnished the bookkeeping division from which journal entries are prepared closing the general premium and commission accounts and setting up the premiums and commissions by lines of business for posting to the general ledgers. Agency reinsurance assumed is reported separately on the account recapitulation and the Hollerith department statements separate the direct and assumed business. The cards are then tabulated by agencies and posted to cards similar to that illustrated on page 228.

A copy of the Hollerith card used for the above analysis is given on page 231. The card is simple and requires no comments. It will be noted that ample fields have been provided for recording both agency and reinsured company in case of agency reinsurance assumed.

PREMIUMS IN COURSE OF COLLECTION

Since September, 1925, the detail of premiums in course of collection for casualty business at our New York branch has been maintained by means of the Hollerith system. The plan is briefly as follows: Duplicate cards are punched from the copy of the bill mailed to the broker or agent. These cards are checked in the usual manner and balanced to the daily control of net writings. One set is used to tabulate the writings for the month and make such other tabulations as the branch requires. The other set is filed into a perpetual inventory file by brokers.

All cards of this set are filed including not takens. Subsequently the cards representing the not taken items and the original charges therefor are pulled from the file, the debits and credits balanced and the cards discarded. Paid items are withdrawn from the file and the cards balanced to the daily net cash received (the commissions are not punched originally but only as the paid items are pulled from the file). The single column paid premium and commission journal principle is also in effect at the New York branch. At the end of the month the paid premium and commission analysis is made from the pulled cards. Items which are paid for but have not gone through the writings and put into file are taken care of by punching two additional cards of different colors and distinct from the colors used in the regular punching. One card goes in with the pulled cards to balance the paid premiums and commissions and the other is placed in a special "paid not charged" file. The regular file is gone through periodically with the paid not charged cards and as the original charge cards are located they are pulled, matched up with the corresponding paid not charged cards, balanced and destroyed.

Partial payments are taken care of by punching two new cards, one showing the amount of payment and corresponding commission which goes in with the regular paid cards and the other showing the balance still unpaid which is filed back with the outstanding. Both cards are marked "partial payment". The original outstanding card is, of course, withdrawn from file. This also is marked "partial payment" and filed away in a special file for reference purposes should any question arise making it necessary to look up the original item.

This system does away with the keeping of between 7000 and 8000 individual brokers ledger accounts and, although we have not had enough experience as yet under the system to pronounce it an unqualified success, the results to date have been satisfactory. The printing tabulating machine is used extensively in this work and in addition to the Hollerith file of outstanding items by brokers, a similar file of such items in the form of collection slips is maintained. Listings of the individual Hollerith items representing brokers accounts are made periodically on the tabulating printing machine and a reconciliation effected with the collection slips.

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Kind of Policy	Report No.	General Agent	Reporting Agent	Premium			Commission			Credit Premium			Credit Commission			Date Rec.	
																12	11
																Tr	Mo
0 0	0 0 0 0	0 0 0 0	0 0 0 0	0 0	0 0 0 0	0 0	0 0 0 0	0 0	0 0 0 0	0 0	0 0 0 0	0 0	0 0 0 0	0 0	0 0 0 0	0 0	0 0
1 1	1 1 1 1	1 1 1 1	1 1 1 1	1 1	1 1 1 1	1 1	1 1 1 1	1 1	1 1 1 1	1 1	1 1 1 1	1 1	1 1 1 1	1 1	1 1 1 1	1 1	1 1
2 2	2 2 2 2	2 2 2 2	2 2 2 2	2 2	2 2 2 2	2 2	2 2 2 2	2 2	2 2 2 2	2 2	2 2 2 2	2 2	2 2 2 2	2 2	2 2 2 2	2 2	2 2
3 3	3 3 3 3	3 3 3 3	3 3 3 3	3 3	3 3 3 3	3 3	3 3 3 3	3 3	3 3 3 3	3 3	3 3 3 3	3 3	3 3 3 3	3 3	3 3 3 3	3 3	3 3
4 4	4 4 4 4	4 4 4 4	4 4 4 4	4 4	4 4 4 4	4 4	4 4 4 4	4 4	4 4 4 4	4 4	4 4 4 4	4 4	4 4 4 4	4 4	4 4 4 4	4 4	4 4
5 5	5 5 5 5	5 5 5 5	5 5 5 5	5 5	5 5 5 5	5 5	5 5 5 5	5 5	5 5 5 5	5 5	5 5 5 5	5 5	5 5 5 5	5 5	5 5 5 5	5 5	5 5
6 6	6 6 6 6	6 6 6 6	6 6 6 6	6 6	6 6 6 6	6 6	6 6 6 6	6 6	6 6 6 6	6 6	6 6 6 6	6 6	6 6 6 6	6 6	6 6 6 6	6 6	6 6
7 7	7 7 7 7	7 7 7 7	7 7 7 7	7 7	7 7 7 7	7 7	7 7 7 7	7 7	7 7 7 7	7 7	7 7 7 7	7 7	7 7 7 7	7 7	7 7 7 7	7 7	7 7
8 8	8 8 8 8	8 8 8 8	8 8 8 8	8 8	8 8 8 8	8 8	8 8 8 8	8 8	8 8 8 8	8 8	8 8 8 8	8 8	8 8 8 8	8 8	8 8 8 8	8 8	8 8
9 9	9 9 9 9	9 9 9 9	9 9 9 9	9 9	9 9 9 9	9 9	9 9 9 9	9 9	9 9 9 9	9 9	9 9 9 9	9 9	9 9 9 9	9 9	9 9 9 9	9 9	9 9

PAID PREMIUM ANALYSIS

An incidental compilation that we expect to obtain from the paid cards for 1926 is the amounts paid brokers as commissions, required for income tax purposes. This compilation when made by hand is a rather slow, laborious and costly operation.

A copy of the card used in connection with the above system is given on page 233. This requires but little explanation. The card is not a complete accounting card as it is not designed to produce state results or unearned premium reserve data. The journal code is the same as that used at the home office. The first column in the Branch and Broker field designates the local branch, *i. e.*, Brooklyn, 42nd Street or 100 William Street. The remaining four columns are used for broker.

The card could be better arranged. For example, the "credit premium" and "debit commission" fields could be interchanged to advantage. It was not practical to use an ideal arrangement when the card was designed for the reason that an inventory was made by the Hollerith system of the premiums in course of collection as of August 31, 1925, without any thought of adopting the present system. When it was later decided to adopt this system it was necessary to design the new card to harmonize with the original inventory cards.

While the above system is a specialized agency accounting operation, the writer feels that it can be adapted to fit into the conditions of home office premiums in course of collection accounting and is at the present time making tests at the home office with that end in view. In case of companies punching cards in duplicate, as in the case of the *Ætna* organization, the set of cards necessary for keeping up the perpetual inventory is automatically provided.

One of the most difficult features in connection with the operation of such a system is the punching up of the original inventory.

LOSS ACCOUNTING

For Hollerith loss accounting work we use the same card for both accounting and experience purposes, except for accident and health where for experience work we use the loss cards designed by the Committee of Five on Statistics of the Bureau of Personal Accident and Health Underwriters.

A copy of our loss card is given on page 235. The card, so far as

accounting data is concerned, is simple and requires very little explanation. It will be noted that column 1 gives us both the company and the annual statement division of losses. The date of accident is used for determining the amount of losses paid during the current year on losses incurred in previous years for certain lines of business in connection with compiling Schedule O of the annual statement blank. The kind of payment field is for experience purposes except column 22, position 4, which covers specific loss expense and is used for both accounting and experience purposes. The card, in harmony with our other cards, provides for both debit and credit payments. This materially facilitates the computation of the annual statement data.

In general our methods of checking cards, making tabulations and recording tabulations are the same for losses as for premiums. Two sets of cards are punched, one serving for accounting work and the other for experience work.

SINGLE COLUMN LOSS JOURNAL

Prior to January 1, 1926, our loss journals provided two columns for each line of business, one for loss and the other for expense. The loss journals are maintained in an accounting division known as the voucher audit division. Losses are paid principally by drafts issued by field adjusters. When a draft is issued a carbon copy thereof is mailed to the voucher audit division where it is held in file awaiting presentation of the original draft for payment by the bank. As the original drafts are presented, the duplicate copies are drawn and a check requisition made up listing the draft numbers and amounts. The duplicate copies of drafts contain spaces for inserting the necessary Hollerith data for accounting and experience purposes. The voucher audit division, under the system in effect prior to January 1, 1926, classified the drafts to the best of their ability as respects line of business and loss or expense and entered the analysis of each check requisition based upon their classification on the loss journal. The requisitions, drafts and copies were then forwarded to the claim department where the analysis was checked and all other accounting and statistical data entered. The requisitions and copies of drafts were then forwarded to the Hollerith department for punching and balancing. Under this system many

correcting entries were necessary on the loss journals owing to errors in posting and more particularly to failure of the voucher audit division, because of unfamiliarity with loss technicalities, to properly distinguish between loss and loss expense payments and resulting in considerable annoyance to all three departments interested and a material effort and expense incident to making corrections and balancing. Beginning January 1, 1926, we adopted so-called single column loss journals similar to the paid premium journals previously described. The single column is headed "Loss and Expense". The procedure followed is substantially the same as previously except that the voucher audit division enters only the total amount of the check requisition in the "Loss and Expense" column. The Hollerith department balances the cards to the total of each requisition and to the totals for the month as shown by the loss journals. After this balance is effected the cards are analyzed by lines divided between loss and loss expense and statements furnished the voucher audit division from which journal entries are prepared closing the "Loss and Expense" accounts and setting up loss and expense by lines of business. Further statements of losses by annual statement divisions are furnished the bookkeeping division for general ledger postings.

The foregoing applies to general casualty lines. In case of accident and health the procedure is somewhat different but the same principle is used. In fact a single column loss journal has been in use for accident and health business since January 1, 1924, and the success of the system for accident and health led to the decision to adopt it for the general casualty lines.

There is one point worth mentioning in connection with this subject. At the present time we pay practically all losses, both in the field and at the Home Office, including reinsurance losses and reinsurance salvage, by draft. This makes fewer entries on the loss journal and materially reduces the number of check requisitions handled by the Hollerith department.

GENERAL

One of the advantages of the Hollerith system is its flexibility, as illustrated by the number of different sets of tabulations economically obtained from a single card. One of its greatest possibilities which I have attempted to emphasize in this paper

is that of accounting analysis, as a substitute for detailed accounting by the usual books of account. It is not a panacea for all accounting troubles. It will do most anything accounting-wise but not always as satisfactorily or economically as other methods. It also has its drawbacks, one of which is the impracticability of starting any tabulating work until a month's cards are complete. Where an accounting analysis is demanded at an early date after the close of any month and considerable sorting and tabulating is necessary, it cannot compete against hand methods where postings are made daily and the desired results obtained by simply adding certain columns as soon as the last item is posted.

One subject that I commend to the thought of those interested in Hollerith and accounting work is that of Hollerith analysis of expenses; that is, the use of a single column expense journal along the lines of the single column paid premium and loss journals described in this paper and the analysis of expense by accounts departments, lines of business, etc., through the Hollerith system. The greatest difficulty to overcome is that indicated in the preceding paragraph. The writer has given considerable thought to this subject and has made tests. The results have not been encouraging, but in case of a single company organization, where the problem is considerably simpler than in a three company organization, the chances of success would seem to be promising.