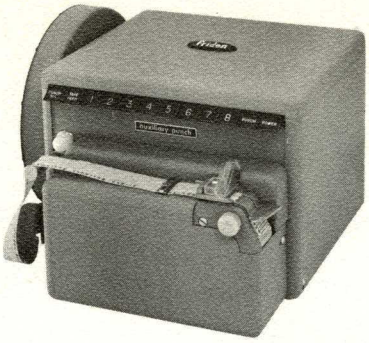
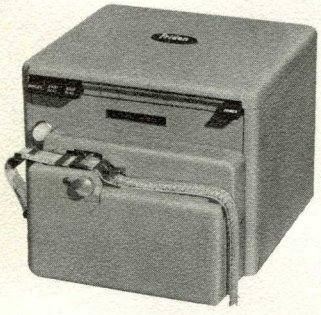
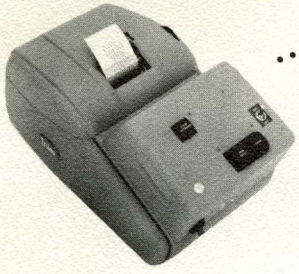


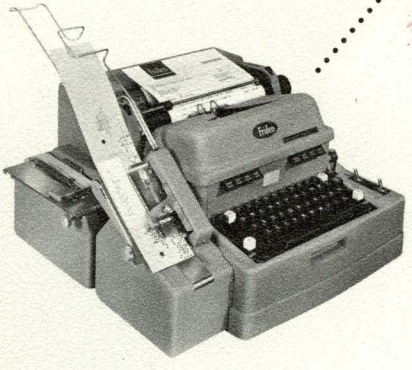


# FRIDEN

# IDP

## PRODUCTS IN ACTION

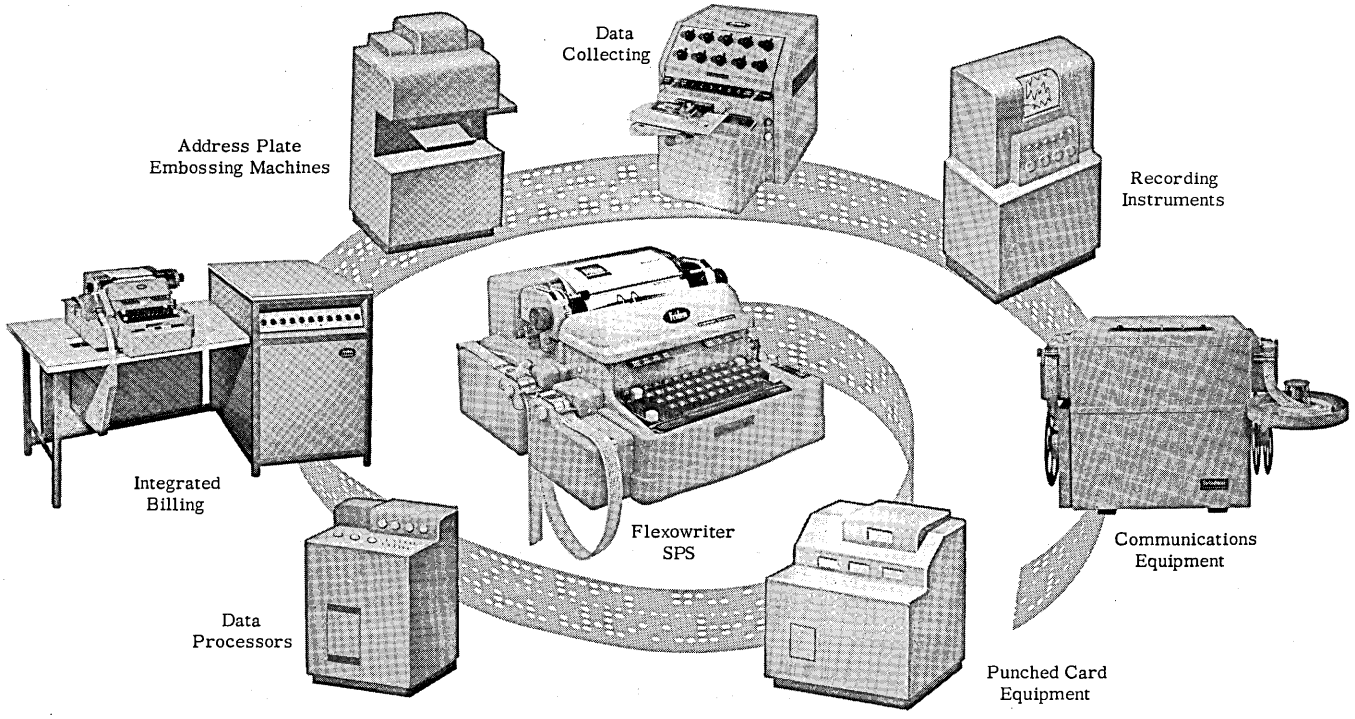




*Originate and perpetuate data automatically. Friden Tape-Talk® machines form the nucleus or complete data-link of your business system . . . any degree of automation as you need it.*

# HOW FRIDEN FLEXOWRITER® INTEGRATES DATA PROCESSING

● IDP, or integrated data processing, is the newest concept of machine control based on the ability of office machines to transfer data to other machines automatically. The Friden Systems Flexowriter automatic writing machine, which operates from, and produces, punched tape, edge punched cards, and tab cards (the "common language" between machines), is a key instrument around which IDP systems are established.




## HERE ARE THE FUNDAMENTALS OF INTEGRATED DATA PROCESSING:

1. **At the point of origin, data is stored in punched paper tape as a by-product of writing the source document.**
2. **This punched tape is subsequently used to control the Flexowriter, or other IDP machines to make data self-perpetuating.**

The following pages illustrate a number of systems applications which show how data is stored in coded punched tape to make it self-perpetuating. The source documents are written on the Systems Flexowriter which punches a tape as a by-product of the typing operation and reads tape for automatic operation of its own typing unit or other IDP machines.

## AUTOMATIC LETTER WRITING WITH FLEXOWRITER® AND SELECTADATA®

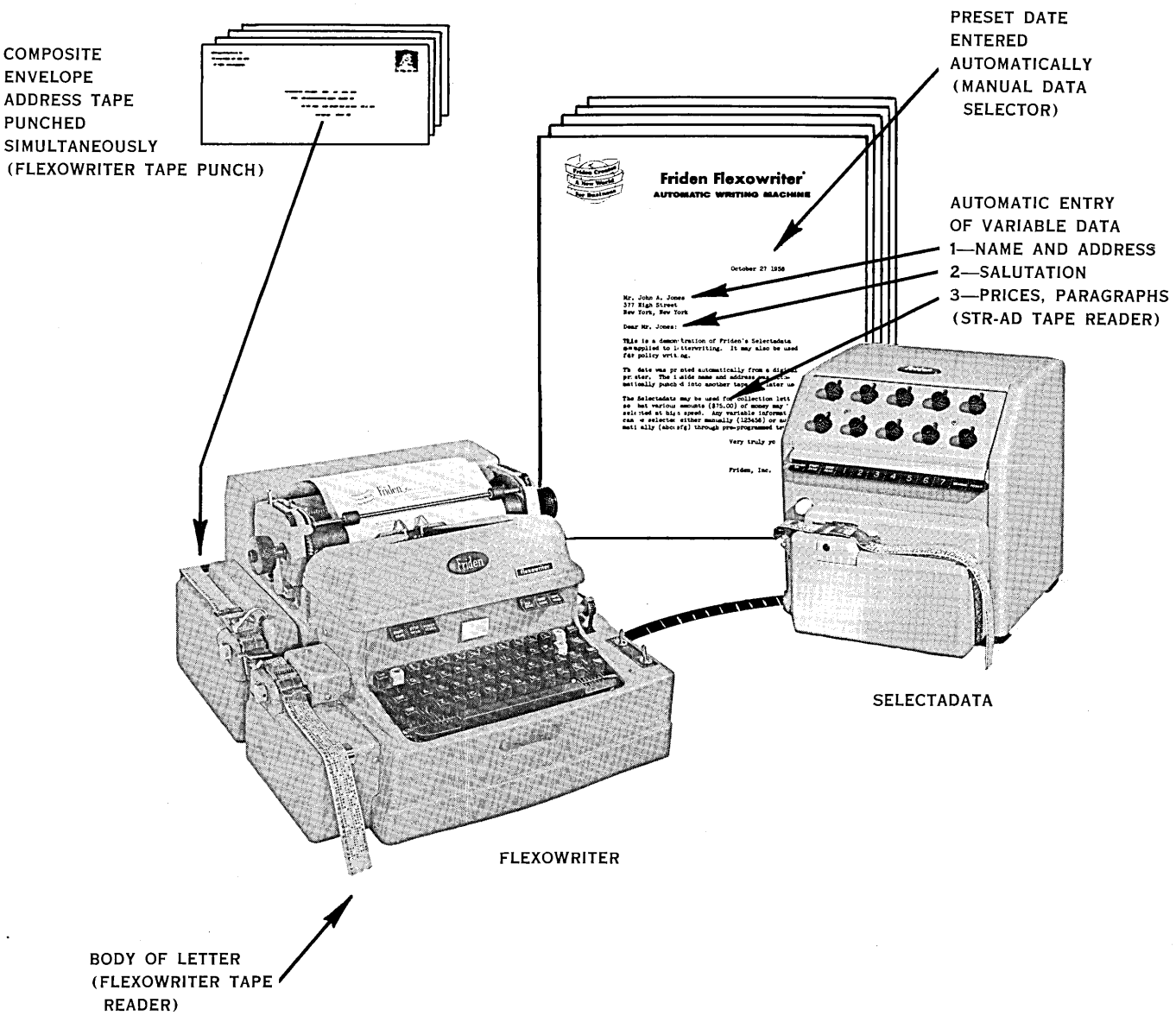
The versatility of the Flexowriter (Model SFD) when used with a Selectadata Reader (Model STR-AD) can be fully realized in a simple letterwriting application. The use of the auxiliary reading unit, which can search for and select variable information, allows alternate reading between the two units for completely automatic writing. The Selectadata can be controlled manually or from a code in the tape.

Presetting numeric dials on the Selectadata will cause the date to read out automatically at the top of the letter. A code in the tape, or manually set switches, then sends the reading to the auxiliary unit to search out and cause typing of the name and address. As this information types, the Flexowriter punches a by-product tape to later write envelopes automatically. The salutation reads out from the Selectadata, then operations switch back to the Flexowriter. During typing of the body of the letter, any other numeric or alphabetic data can be searched out in this way, including whole paragraphs.

The Flexowriter and Selectadata are particularly suited to collection letter writing as they can search out items and amounts. Simple systems applications can be accomplished by this combination as well.

For automatically preparing executive-type letters, the Flexowriter President Model SFD gives quality results. This proportional-spacing machine is available in a wide selection of distinctive type styles.

# Automatic Letter Writing



## DUPLICATOR MASTERS FOR PRODUCTION SCHEDULING

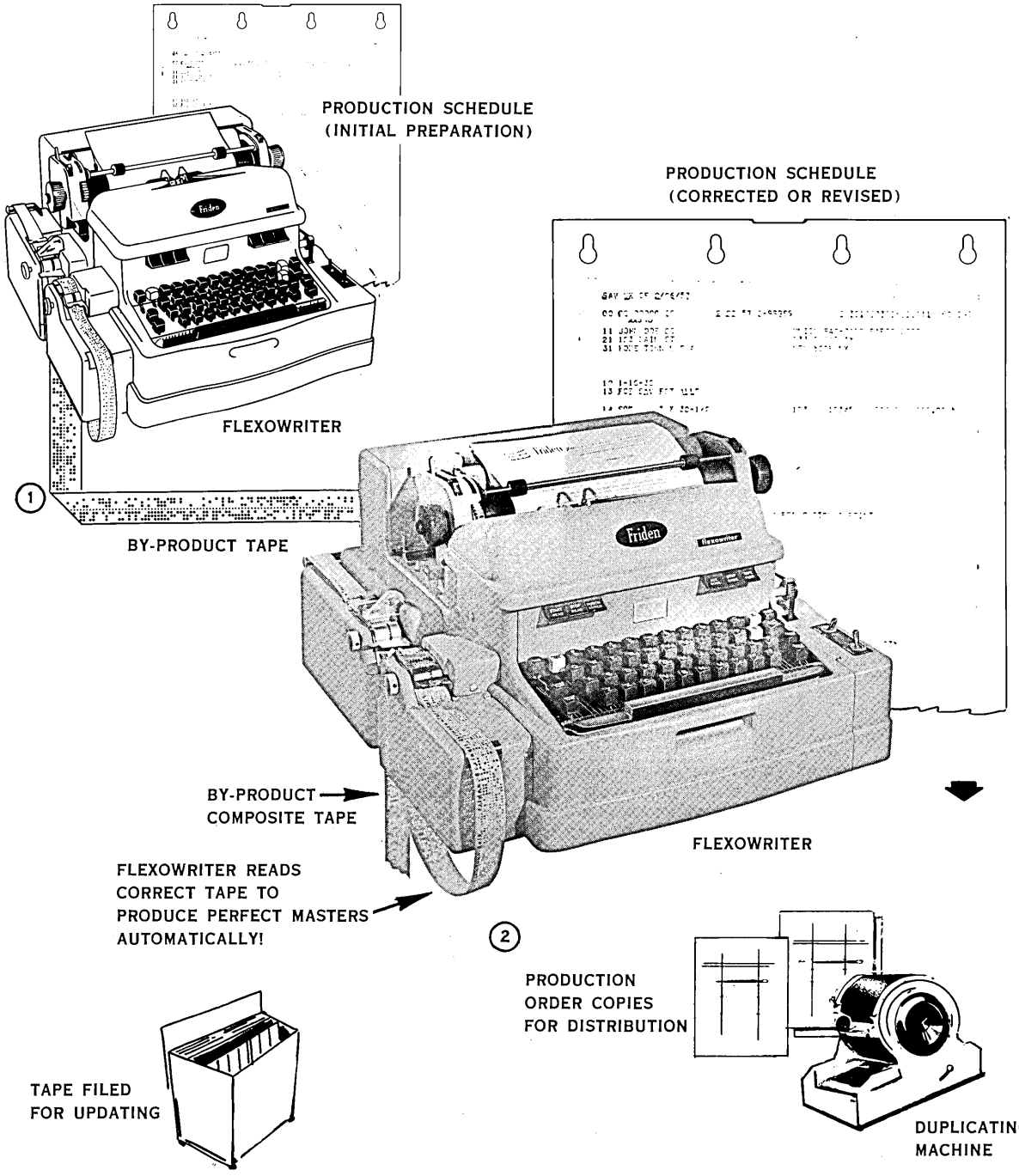
Preparing duplicating masters can be costly and time consuming when a number of them must be prepared by typing them manually every day. Mistakes are a problem to correct even if caught when made and often mean an entire retyping of the master. When fifty or sixty masters must be typed a day for production scheduling purposes, plus revisions, this can cause a serious bottleneck. This is how a company who was faced with this problem solved it by installing Flexowriters.

Typists keyboard the information as before, but make a tape (1) of the entire writing as they do. If the master is typed without a mistake, it is checked by a proofreader and goes to the duplicator. If a mistake does occur, it is corrected in the tape by deleting the unwanted codes. Upon completion of the document, the tape (2) is read to type a new master automatically at 100 words per minute. Complete manual retypings are never necessary and only the corrected places must be proofread again.

Revisions are made by updating tapes, which are kept on file, on the Flexowriters. When a change is needed, a new tape is made from the old and the more recent information is keyboarded manually in it. A new master is made automatically from the updated tape.

Since Flexowriters have been installed, only a portion of the day need be devoted to master preparation. So, the machines are used to write purchase orders and miscellaneous letters, too. This is an additional economy to the more than fifty man hours saved in master preparation each day.

# Production Scheduling



## CHARGE ACCOUNTS AND EMBOSSED PLATES

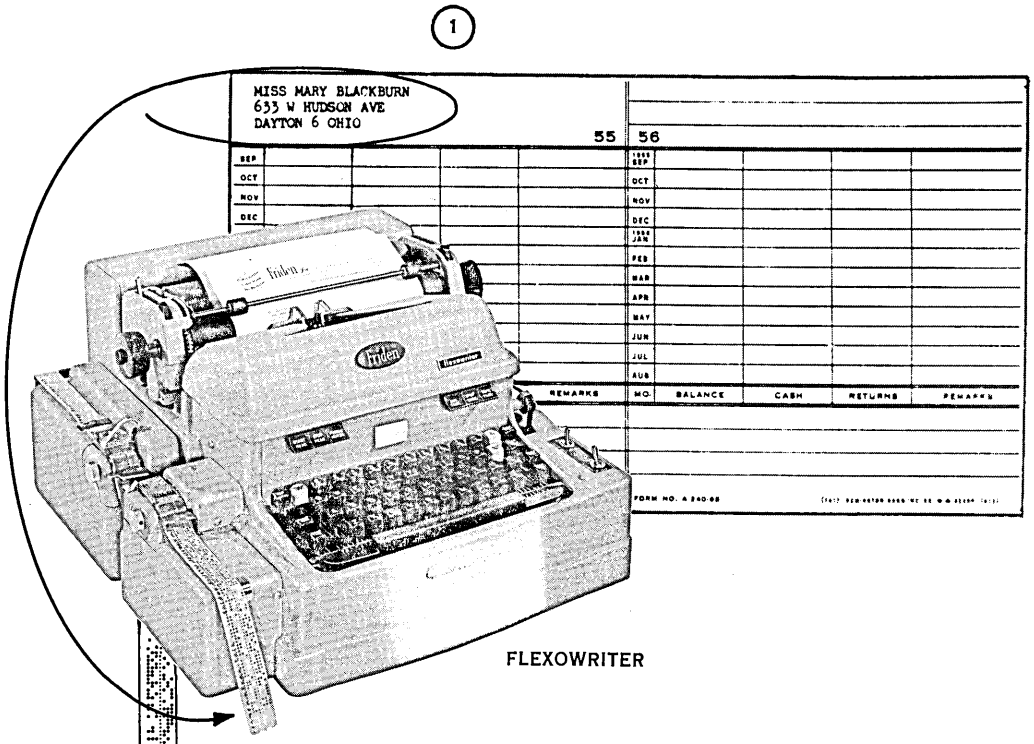
The Friden Flexowriter is used by stores to prepare ledger credit cards, labels and letters in the processing of charge accounts. As it can produce tape to activate an automatic Graphotype, it is especially useful in the making of embossed plates for any purpose.

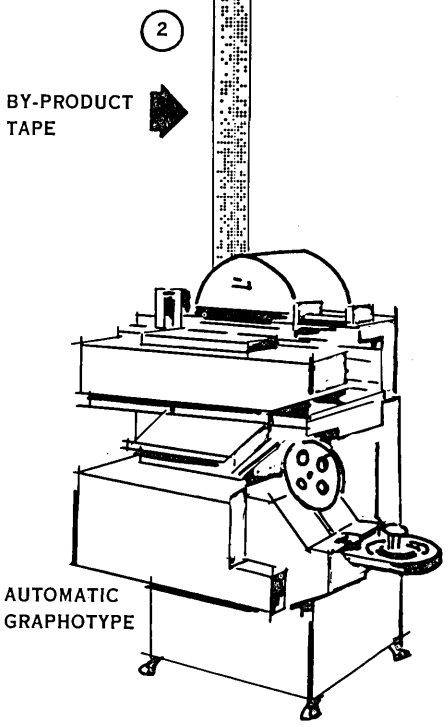
When a customer applies for a charge account, a handwritten form is filled out. From this form, the Flexowriter operator types the customer's name, address and credit limit on one side of a ledger credit card (1). A by-product tape (2) containing the writing and spacing is produced simultaneously. The tape is used first to write the same information on the reverse side of the card. Then, the same tape is used to make embossed plates on the automatic Graphotype.

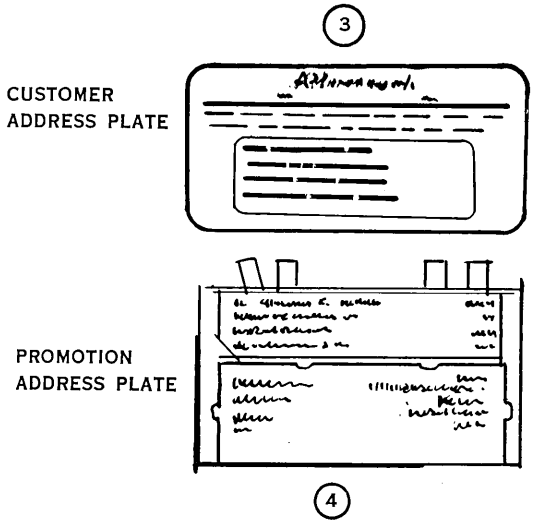
Two types of plates are produced from the tape. One is a customer charge plate (3) used when purchases are made. The other is a promotion plate (4) used to address promotional mailings to that person.

Should a change occur in an account, a label containing the new information is typed. A new by-product tape types the label for the reverse side and prepares new plates. If the machine is not in use at all times for these purposes, it can be used for letterwriting, stencil preparation, or for any other typing applications.

# Embossed Plates and Charge Accounts



## PURCHASE ORDER WRITING

FLEXOWRITER® WITH TAB CARD READER AND AUXILIARY TAPE PUNCH AND READER

Through alternate reading of tab cards and programmed punched tape, the Flexowriter (Model SPS) with Tab Card Reader can produce purchase orders (1) with a minimum of operator control. This application uses an Auxiliary Tape Punch and Tape Reader both cable-connected to the Flexowriter to function with it.

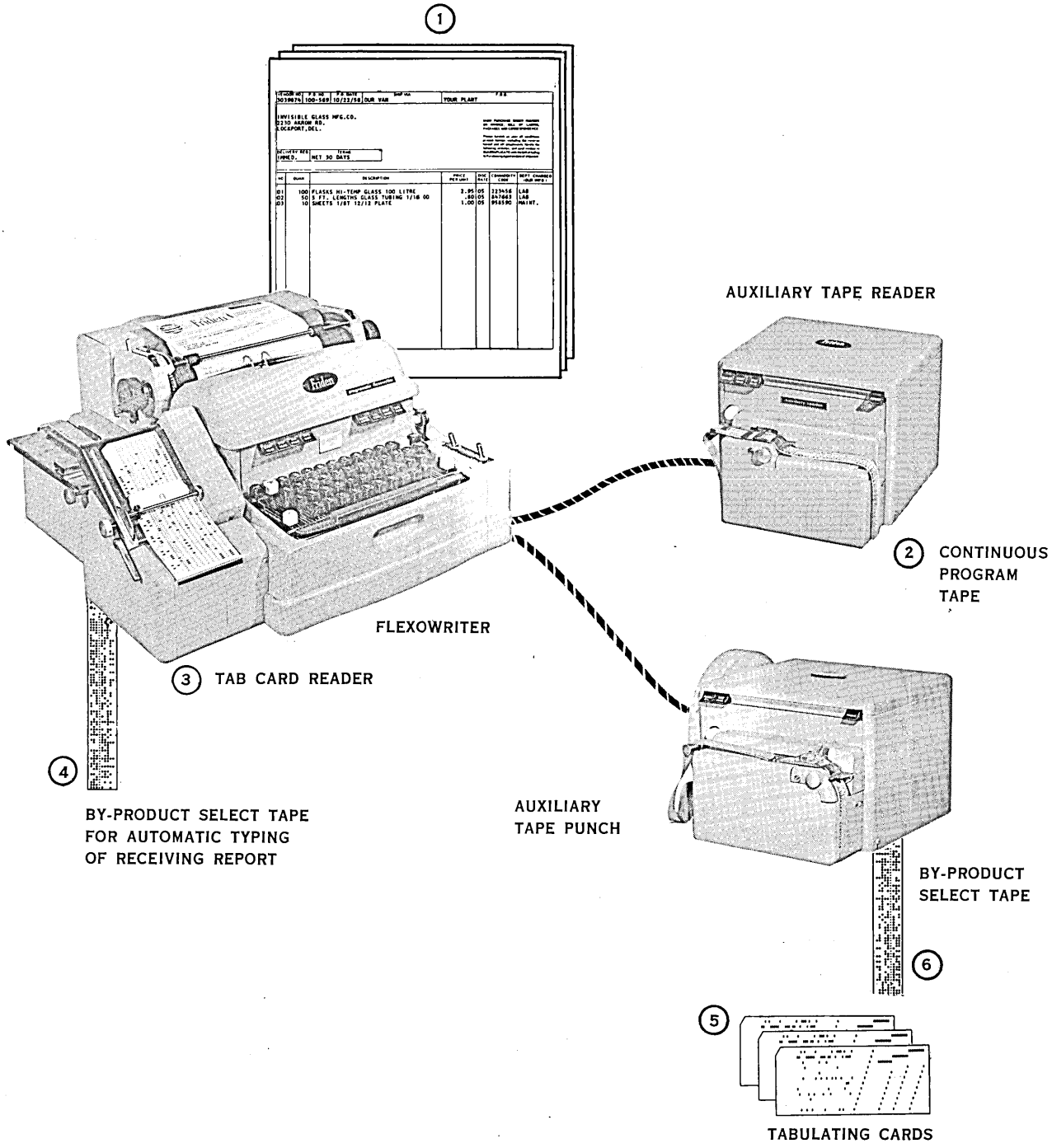
A continuous program tape (2) is read in the auxiliary reading unit to control all functions of the Flexowriter. This gives full use of the tab card (3) for pure data and the required switching codes. Cards are used for each customer and item to write all constant information automatically.

Two select tapes (4) (5) are created simultaneously in the Flexowriter and auxiliary tape punches. The first is used to automatically produce receiving reports on the same, or another, Flexowriter. The second by-product, or auxiliary tape, is sent to automatically prepare tab cards (6) for statistical information purposes.

This application can be extended another step to include automatic check writing and typing of daily check registers as the receiving report is prepared. This is often done for the accounts payable system.

Many companies prefer the Tab Card Reader for reading tab cards directly to supply reports to management. This has become a most important consideration in business today.

# Purchase Order Writing



## PURCHASE ORDER AND CHECK WRITING

FLEXOWRITER PROGRAMATIC® AND AUXILIARY TAPE PUNCH

A typical application for the Flexowriter Programatic (Model SPD, double case) and Auxiliary Tape Punch (Model ATP) is the automatic preparation of purchase orders and accounts payable checks.

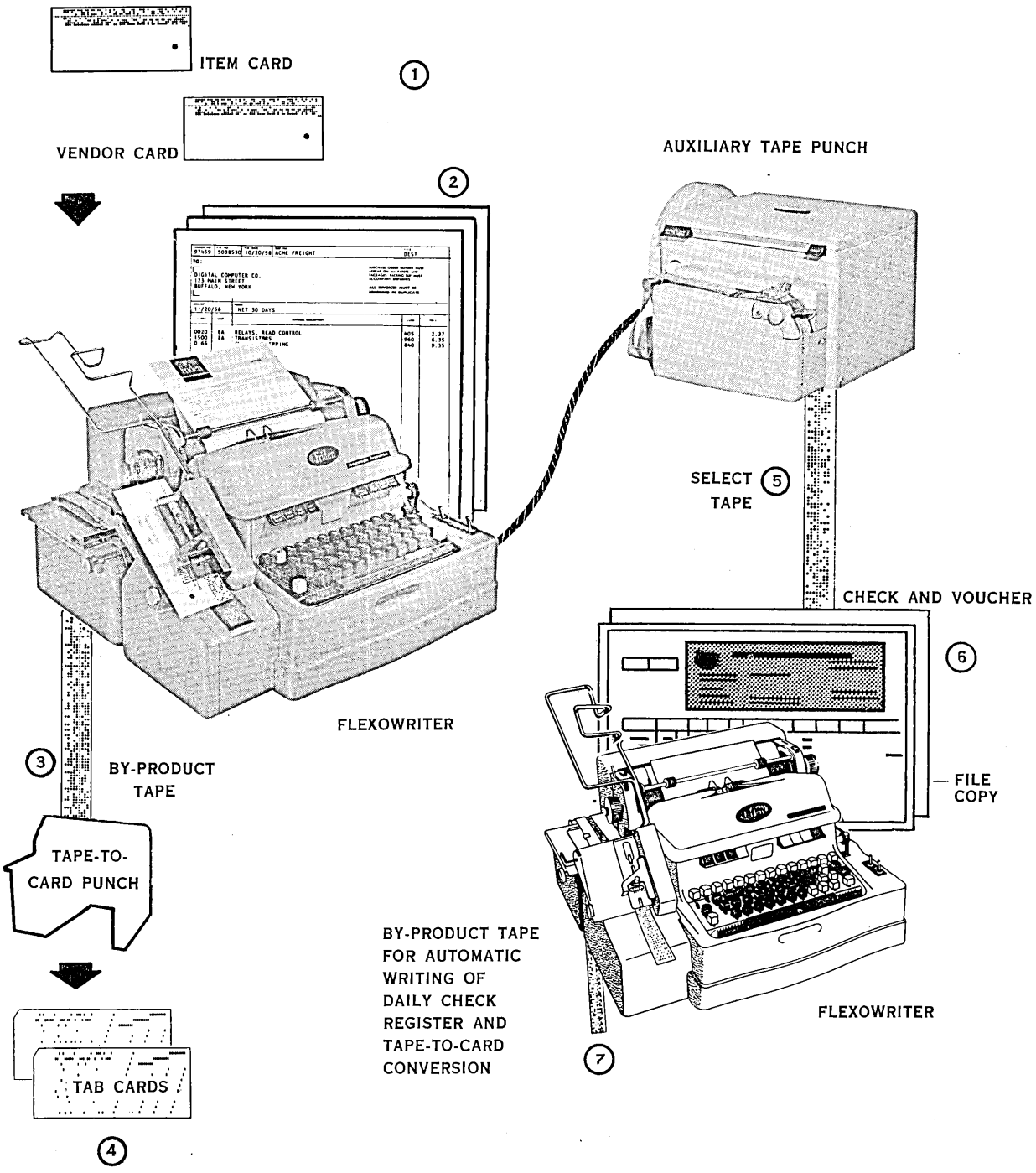
Edge-punched cards (1), which are on file for each vendor and product, are used to write the purchase orders. These cause all constant information to read out automatically and also contain codes to stop the Flexowriter for manual fill-in of variables.

While automatic writing is being accomplished (2), a by-product tape is punched in the Flexowriter. This tape (3), containing selected information, is used to produce tab cards (4) for statistical reports. Simultaneously, another tape (5) is created in the Auxiliary Tape Punch for subsequent automatic typing of checks (6) and vouchers on the same, or another, Flexowriter.

This application can be carried one step further through additional programming. At the time the checks are being written, a by-product tape (7) can be made which will automatically produce a daily check register on the Flexowriter. The same tape can operate a tape-to-card converter to punch master and detail tab cards for distribution breakdown, analysis and end-of-month reconciliation.

The significant advantages of this application are speed, accuracy, and ease of operation. Automatic preparation of documents and tab cards brings vital data to management immediately for better business control.

# Purchase Order and Check Writing



## SALES ORDERS AND TAB CARDS PRODUCED SIMULTANEOUSLY

FROM TAB CARD AND SELECTIVE TAPE READING

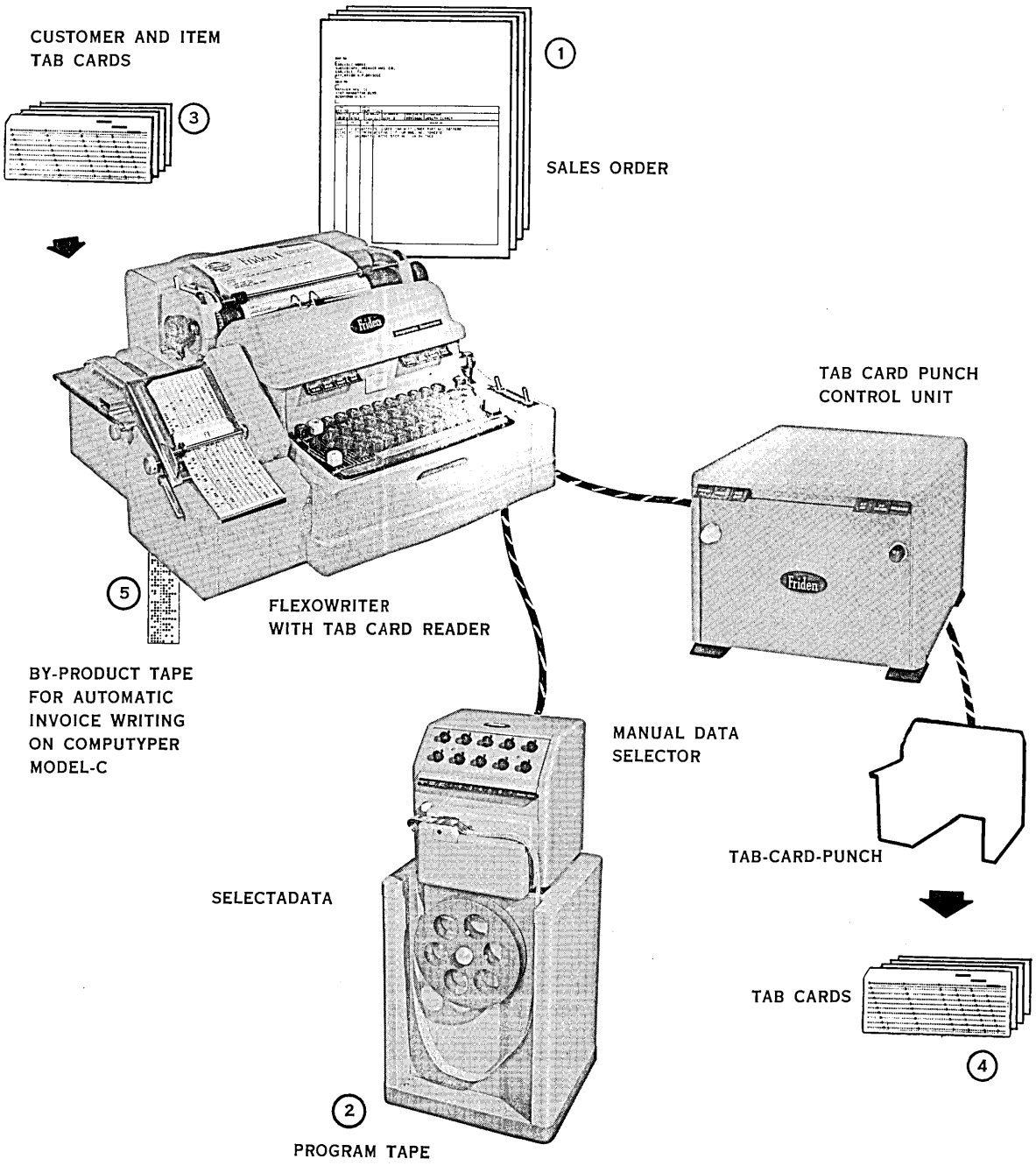
Cable-connecting a Selectadata Synchro-Duplex Reader to exercise complete functional control over a Friden Flexowriter SPS with Tab Card Reader creates a practical method of writing sales orders (1) automatically.

A program tape (2) in the auxiliary unit operates in synchronization with the Flexowriter reader to control the customer and item tab cards (3). This will allow any tab card read to produce orders without programming functional codes of any kind, including switch codes, in the card itself. A most important feature of this system permits the use of selective programming of the actual card reading. It allows any one of a number of variable programs punched in the card to read out automatically.

By connecting a Tab Card Punch Control unit (TCPC) between the Flexowriter and card punch, decks of tabulating cards (4) are produced simultaneously with the order writing. A by-product Flexowriter tape (5) is also punched with all data and control codes necessary for preparing extended invoices on a Friden Computyper (Model CTS). Another tape, punched during invoicing, may be run through the order writing machine to create additional decks of tab cards at the invoice level.

Other advantages of the system include the use of the Manual Data Selector in date entry and typing of the first four digits of the order number. The combined features of this application assure speed and accuracy with a minimum of manual control.

# Sales Order Writing



## ORDER ENTRY-INVOICE

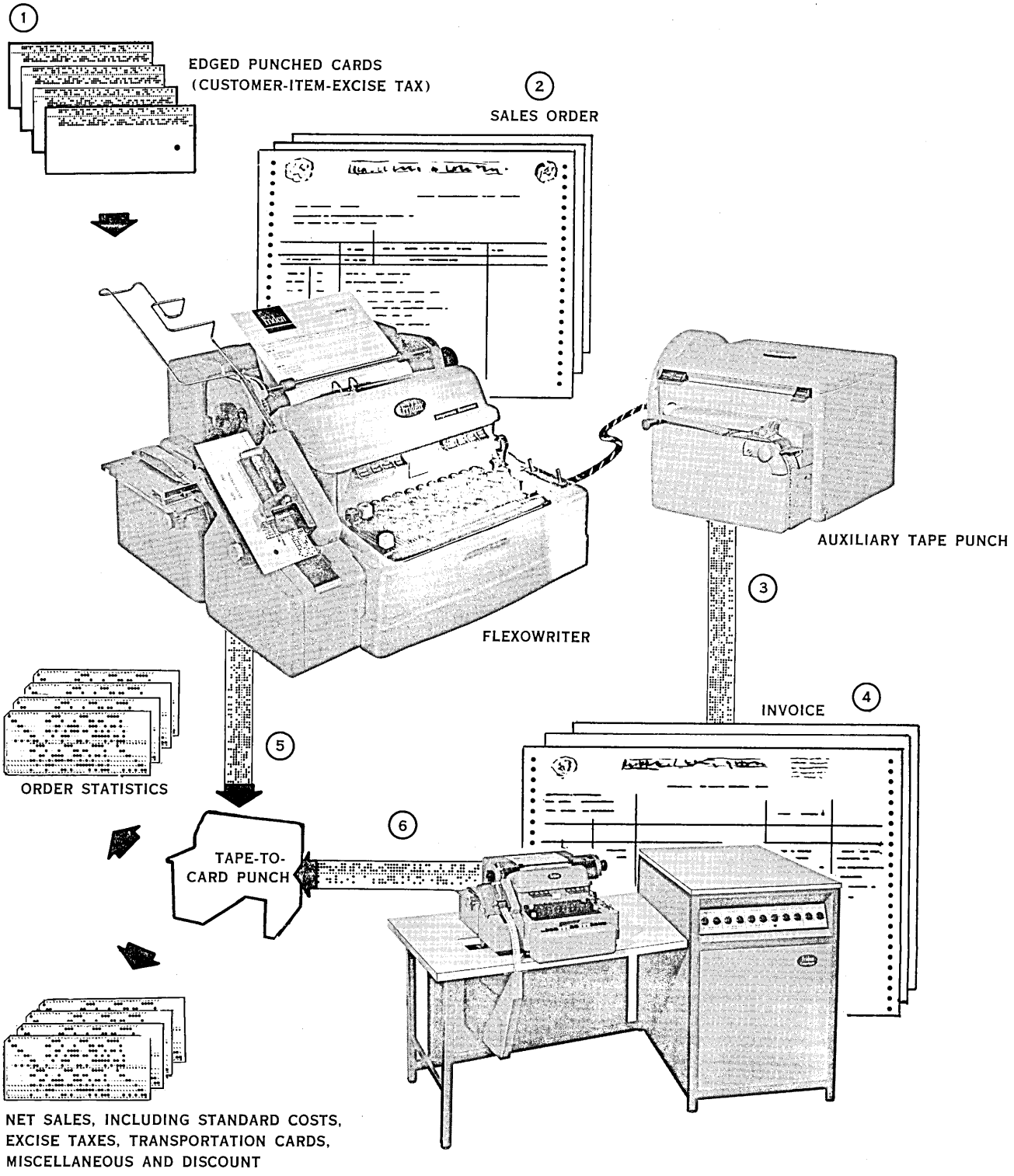
The use of the Flexowriter (Model SPS) and the Computyper (Model CTS) to unify order-invoicing procedures has increased a rubber products company's order writing capacity by half. This sytem has been so successful, it has become widely accepted as a standard method of office automation.

Edge cards (1) are prepunched for each customer with header information, for each item in stock and for excise taxes. As orders are received, they go to the Flexowriter operator who pulls the cards needed to write that particular document. Constant information reads out automatically from the cards and variables are typed manually. A multi-part form (2) allows simultaneous writing of shipping papers and a bill of lading. At the same time, a by-product composite tape (3) of the operation is produced on an auxiliary tape punch cable-connected to the Flexowriter. This will be used to write the invoice (4) on the Computyper after the order is shipped. A second by-product tape (5) is selected in the Flexowriter for tab purposes.

The composite tape contains virtually the same information as did the sales order. As it types the items on the form, the Computyper computes each extension and taxes and enters them automatically on the form. Depression of a total key enters the total invoice amount. A by-product tape (6) is again captured for tab purposes in the punch.

This system cuts errors and proofreading to a minimum. A second manual typing is eliminated at the invoice level. Calculating is done without manual means. Management reports and inventory control records are gained immediately through tab cards produced as a by-product of the operation.

# Sales Order and Invoicing



## ORDER-INVOICING FOR A MULTI-STATE MANUFACTURING NETWORK

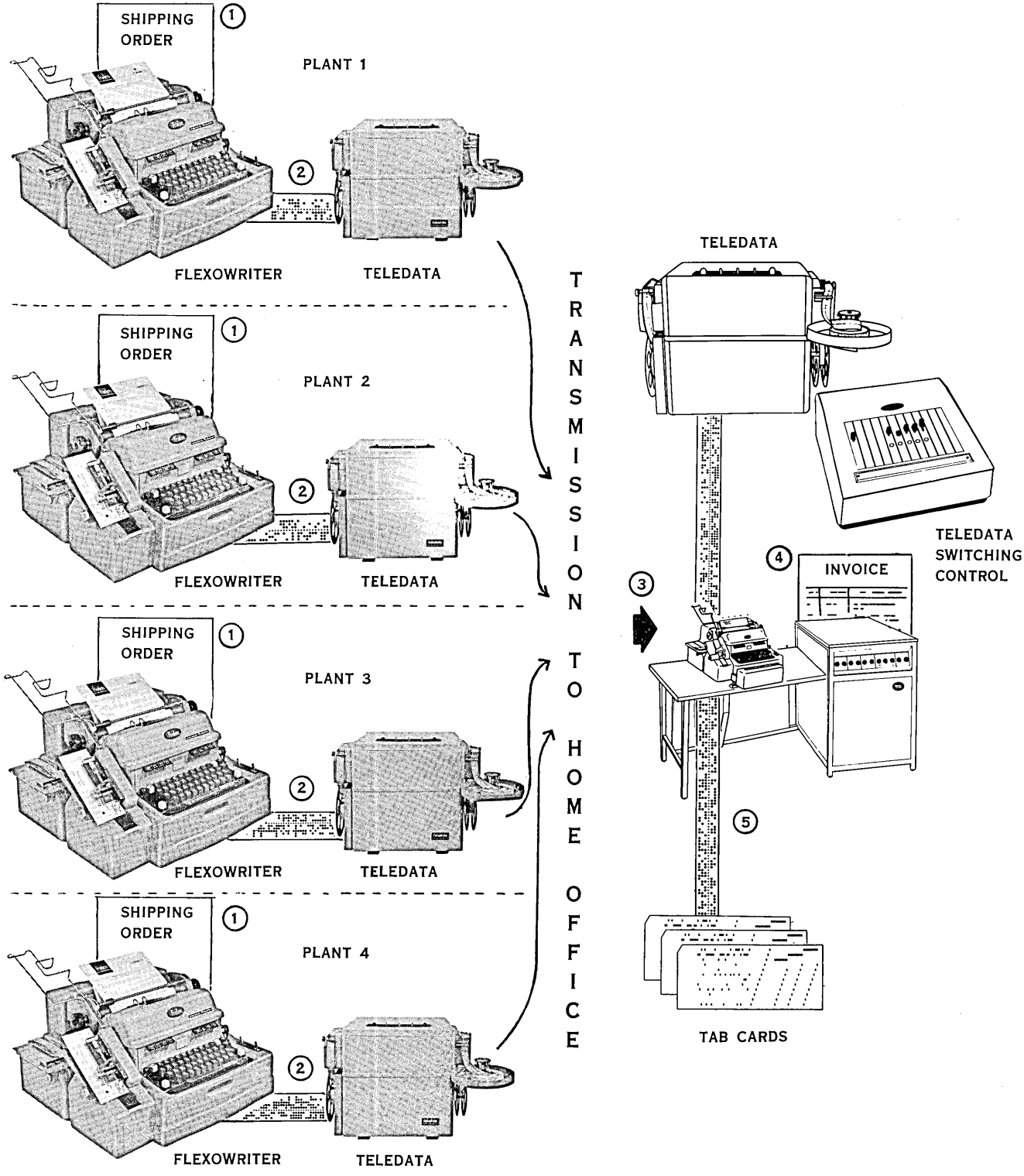
A company uses Flexowriter and Teledata for transmitting orders from factories located in different cities to their home office for invoicing. The system, which employs Flexowriter Programatics and Computypers, cuts paperwork and hastens deliveries.

Orders (1) are written automatically on Flexowriters (Model SPS) from edge-punched customer and item cards at each of the manufacturing points. All constant information and programming codes are contained in the cards; variables are entered from the keyboard. As a by-product of the writing, an invoice tape (2) is produced for transmission to the home office.

As the tape is sent from a factory via the Teledata Transmitter, a duplicate (3) is punched simultaneously in the Teledata at the home office. Should more than one factory attempt to send an order at the same time, a Teledata Switching Control Unit allows the operator to select the one he wishes to receive first. With this unit, too, a message may be sent to one factory at the same time one is being received from another.

The tape from the Teledata Receiver controls Computyper CTS which automatically prepares the invoice (4). A by-product tape (5) for tabulating purposes is produced at the invoice level.

# Order-Invoicing for Multi-State Network



## PRODUCTION ORDERS-MATERIALS REQUISITIONS

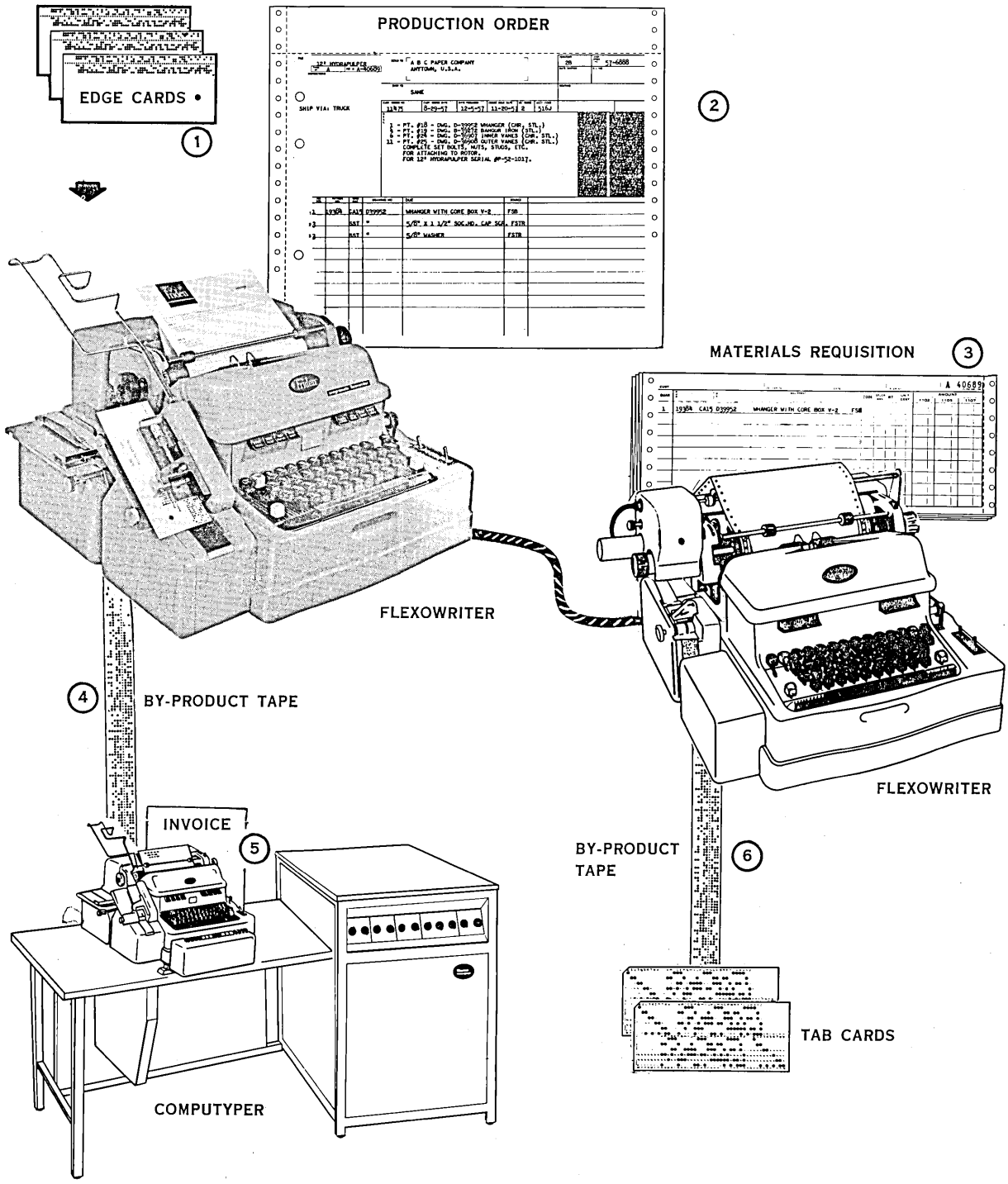
PRODUCED SIMULTANEOUSLY WITH FLEXOWRITER®

Any size manufacturing firm has need for an effective system for writing and handling materials requisitions. Usually they are handwritten in different departments of the plant area and routed from there. Lack of, or inaccurate, information and improper routing often result and deter production and delivery.

This confusion can be avoided by cable-connecting a Systems Receiver Flexowriter (Model SRS-P) and a Flexowriter Programatic (Model SPS) to write materials requisitions as the orders are written. Orders (2) are prepared on the Flexowriter automatically from edge cards (1). The Systems Receiver selects certain information to write the materials requisition (3) simultaneously. Each unit is equipped with a pin feed platen for continuous forms use and the SRS with an electric line finder. The electric line finder allows the SRS to skip to the next form when materials for the same order are drawn from different stores. Requisitions are then routed from one point to their proper destinations.

The simultaneous writing, plus a forms numbering system, corresponds the requisitions with their proper orders. It provides for the materials to produce the order in each department as it arrives. And, with modification of the programming in the edge cards, this application can produce a by-product tape (4) in the Flexowriter to write the invoice (5) on a Computyper CTS. A second by-product tape (6), produced in the Flexowriter SRS-P is used for automatic tab card punching.

# Production Order Writing



## INSURANCE POLICY WRITING ON FLEXOWRITER PROGRAMATIC®

An automatic system of writing policies on the Flexowriter will save time and money, as a number of insurance companies have discovered.

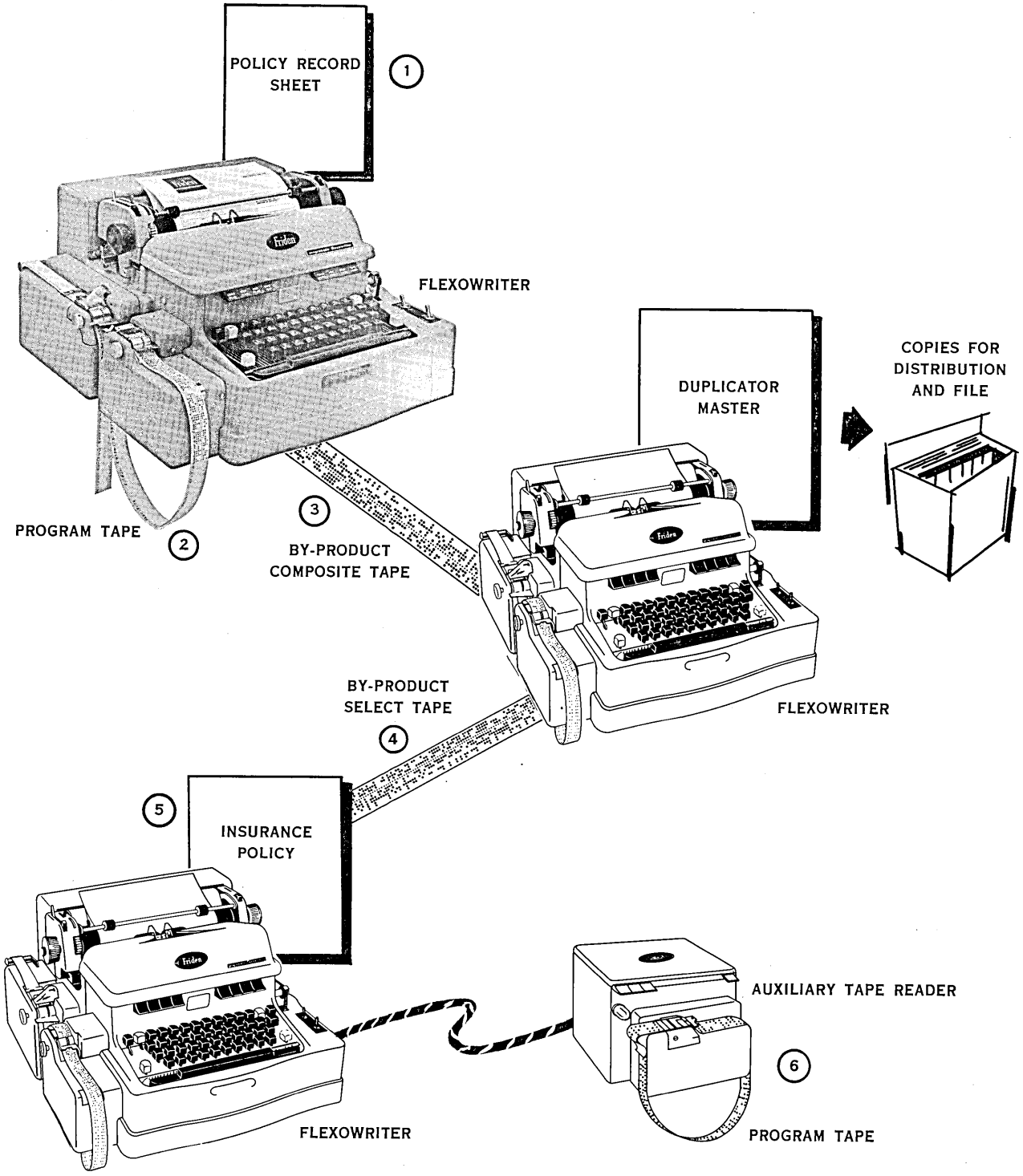
A record must be kept of the information contained in each policy, plus some additional data, and then copies are distributed to various departments. An old method is to manually type data on a hectograph master from which copies are duplicated. The principal drawbacks to this procedure are: errors discovered after typing the master means that another one has to be prepared, and duplicate copies may become illegible.

To overcome this problem, policy record sheets (1) can be typed on Flexowriter as an original document with the information being captured in punched tape. Another tape (2), which has been pre-coded, will control the machine by positioning the carriage as well as causing control codes to punch into the by-product tape (3) for each entry. The document is then proofread and, if there are errors, the corrections are made in the tape. No further proofing is required.

A duplicator master is then inserted in a Flexowriter, along with the correct policy record tape, and all data is typed out automatically.

At the same time the master is typed a by-product tape (4) of pure data is also being punched. Then another Flexowriter types the policies (5) from this tape automatically, with programming control coming from tape (6) in a cable-connected Auxiliary Tape Reader. As the spacing on the policy differs from the policy record sheet, the use of an auxiliary reader eliminates the need for preparing a lengthy and complex program-data tape to be read on the Flexowriter.

# Insurance Policy Writing



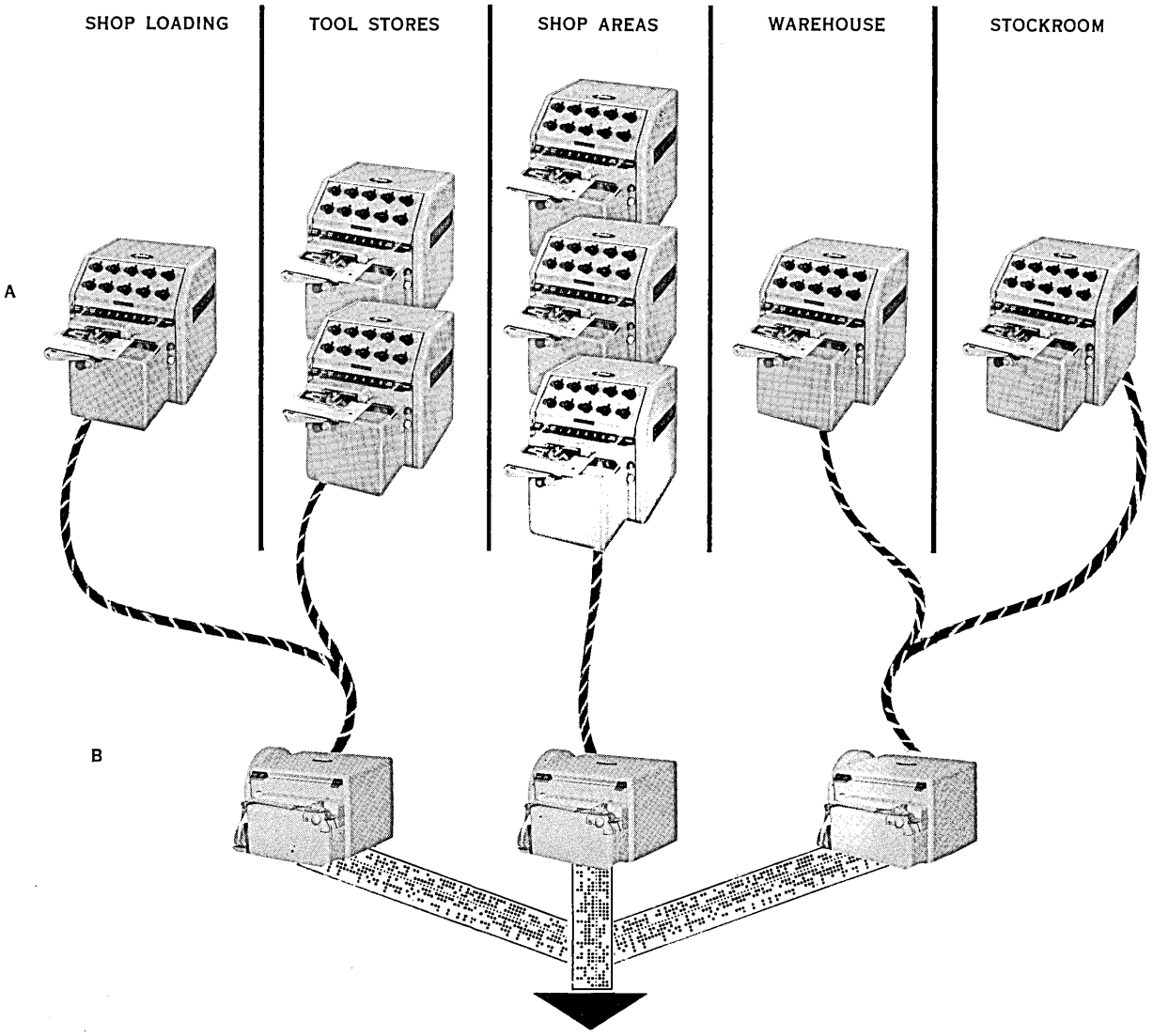
## HOW DATA FLOWS FROM FACTORY TO PROCESSING CENTER VIA COLLECTADATA®

How to relay information to management to schedule production daily, keep track of in-work orders and control inventories on hundreds of items is paramount in today's business. Friden has designed Collectadata to provide the answer. Briefly, this is a quick and efficient system for gathering information from various points of origin and sending it to a central point for immediate processing of reports. Its application can be described in the following system of a manufacturing firm.

Edge-card transmitters, or readers, are installed throughout the plant. (Tab card units are also available). They are cable-connected at various distances to tape punch receivers located in the data processing center. Orders are accompanied by an edge-card prepunched with an order serial number. Upon arrival at each work area, the card is inserted in the reader. The reader transmits this number and its own work station number, which reads out from manually set dials, to the receiver. A tape is punched as it is received. A time code emitter may be connected to each receiver to read out a time sequence code to determine start-stop times for cost accounting functions, time studies and many other uses.

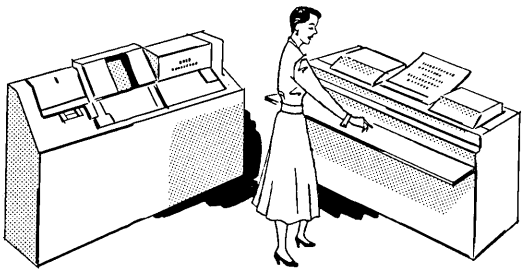
Collectadata can determine which jobs have been in work longer and need immediate attention. It keeps track of jobs step by step to avoid lost orders and work shortages. A daily progress report of individual projects and over-all operations gives a breakdown of receipts, completions and schedule status.

# Data Collecting




A. ORDER MOVEMENT AND PRODUCTION DATA FROM FACTORY AREAS ARE TRANSMITTED TO COLLECTADATA RECEIVERS AT PROCESSING CENTER.

B. ORDER, ZONE, MAN NUMBERS, AND PRODUCTION TIME MAY BE ACCUMULATED IN TAPE FOR DAILY PROCESSING.



C. LABOR, PRODUCTION, LOADING, AND SHORTAGE REPORTS ARE RUSHED TO KEY PERSONNEL TO MAINTAIN CONTROL OF THE MANUFACTURING PROCESS.

## AUTOMATIC CHECK PREPARATION FOR MICR*

(*MAGNETIC INK CHARACTER RECOGNITION SYSTEM)

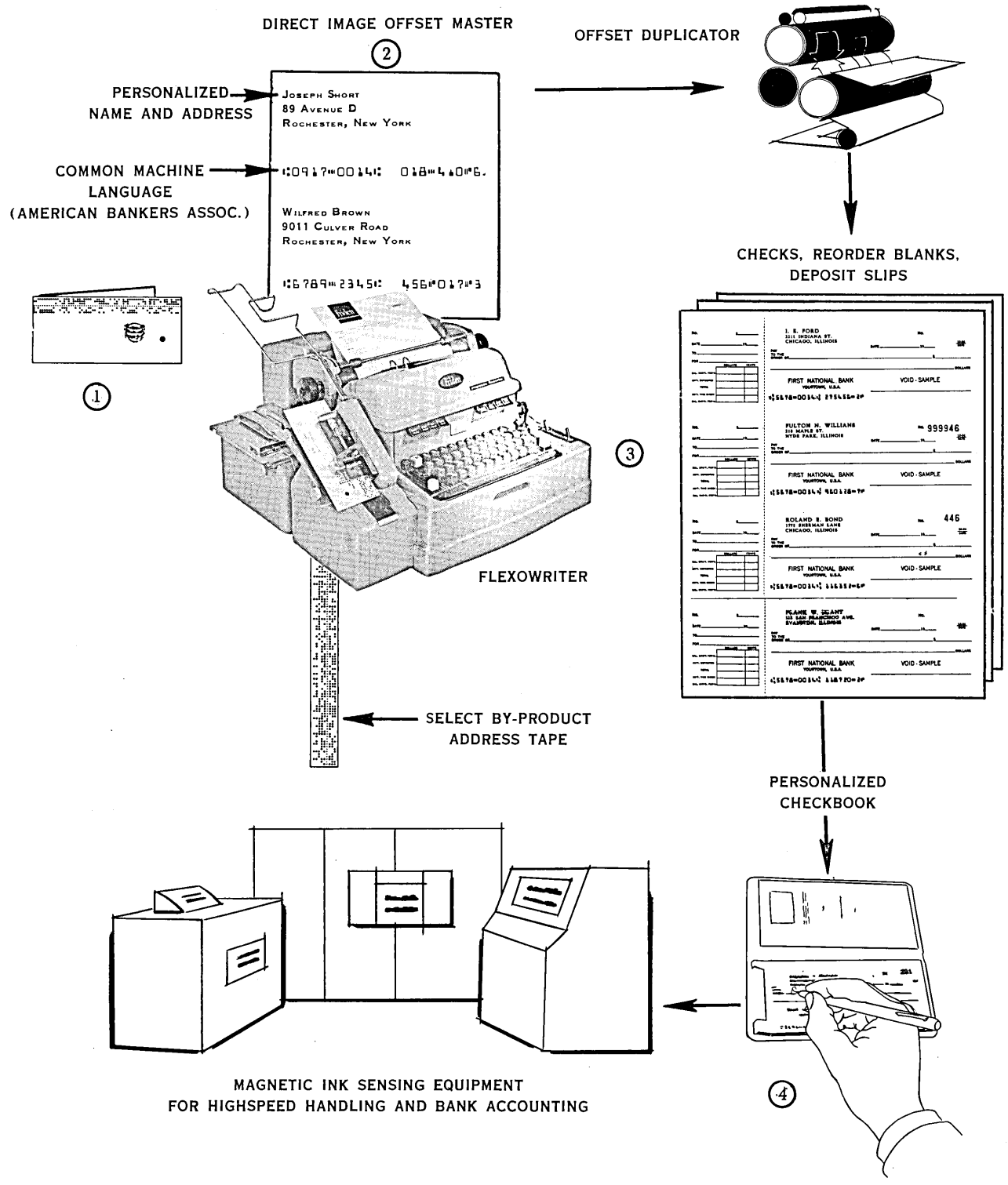
The Flexowriter ABA is a proportional-spacing machine developed by Friden specifically to comply with the American Bankers Association's common machine language for automatic control of check handling. The numerals and four control symbols used to produce the magnetic ink characters that make up the language are incorporated in the keyboard of the Flexowriter. These characters are the key to exchanging outmoded procedures for full automation in banks. The ABA was designed expressly to serve this banking operation.

The machine is used to personalize checks and also encode them with the ABA devised characters automatically during their initial preparation. An edge card (1), tab card or tape containing the customer's name, address, account and routing symbol-transit number is punched. When a customer orders checks, his card is inserted in the Flexowriter. By merely touching Start Read, the information types on a direct image master (2) to prepare it for printing. Sheets of preprinted check forms are fed through the press set up with the prepared master and printed from it.

After printing, the checks (3) are cut and bound into checkbooks for the customers who ordered them. Also incorporated into the checkbooks (4) are deposit slips and a reorder blank prepared just as the checks were.

After a check has been cashed and routed back to the bank, the amount of the check and a transaction code are post-printed in magnetic ink characters. They are processed through sorting-reading and computing devices which perform accounting functions by recognizing the ABA symbols.

# Check Preparation for MICR*



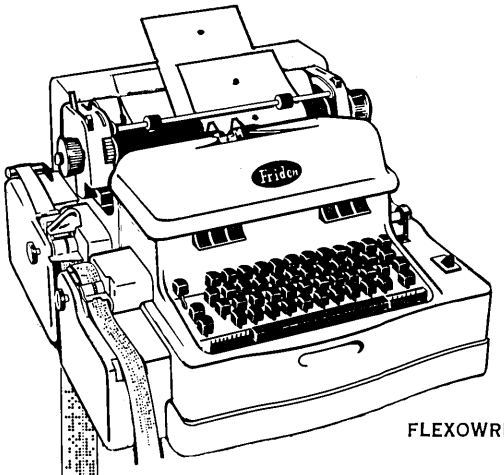
## AUTOMATIC PREPARATION OF LIBRARY CATALOG CARDS

The Flexowriter has been a welcome innovation in many libraries for the tedious job of cataloging new books as they arrive. Since one card must be typed for every subject for which a book might be used for reference, the same information must be typed over and over again. This can involve repetitive typing for as many as twenty cards per book, and eight or ten cards is a usual number. Some libraries type the same information again on a duplicating master to prepare a weekly newsletter for their public.

Flexowriters can accomplish the job automatically using a pin feed platen and continuous cataloging cards. A guide card containing the index number, author, title, description and tracer goes to the Flexowriter (Model SFD) operator. As the first card (1) is typed manually, a tape (2) is punched. Mistakes can be corrected at this point and the card serves only as visible proof of typing in this case. The tape is used to type the other cards automatically. Then, it is attached to the guide card for filing purposes. Cards are separated, checked and filed in the cross-reference filing system.

At the end of the week, the tapes can be used to write a duplicating master automatically for production of the weekly newsletter (3). If cards become worn, the tapes are used to produce new ones.

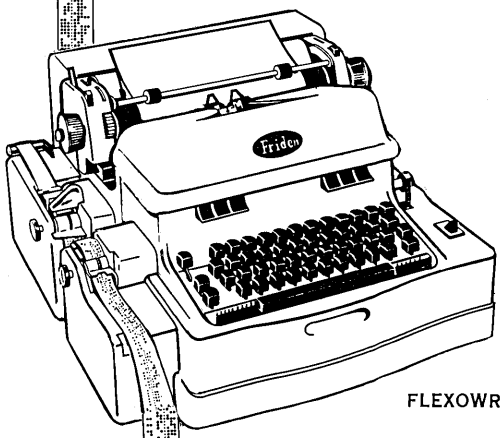
# Library Card Preparation



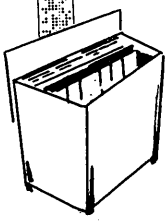

FLEXOWRITER

(2)

BY-PRODUCT TAPE

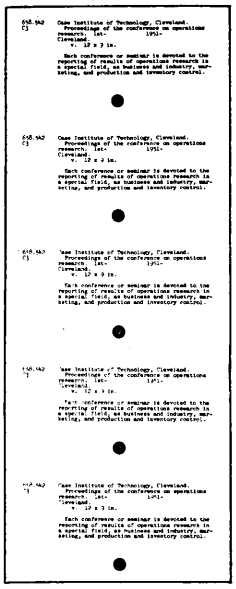



FLEXOWRITER



TAPES KEPT ON FILE FOR PRODUCING NEW CARDS WHEN REQUIRED

LIBRARY REFERENCE CARDS



(1)

WEEKLY BULLETIN OF NEW BOOKS

665.5
B8

Brooks, Benjamin Talbott, 1885-
The chemistry of petroleum hydrocarbons, edited by Benjamin T. Brooks [and others, New York, Reinhold, 1954-
v. illus., ports. 9 x 6 in.
Volumes 1, 2, and 3.

658.942
C3

Case Institute of Technology, Cleveland.
Proceedings of the conference on operations research. 1st- 1951-
Cleveland.
v. 12 x 9 in.
Library has 1951, 1953, 1954, 1955, and 1956.

Each conference or seminar is devoted to the reporting of results of operations research in a special field, as business and industry, marketing, and production and inventory control.

(3)

536.7
D66

Doolittle, Jesse Seymour, 1903-
Engineering thermodynamics: theory and applications, by Jesse Seymour Doolittle and Alexander Hamilton Kerban. 2d ed. Scranton, International Textbook Co. ,1954;
496 p. illus., diagrs. 10 x 6 in.
(International textbooks in mechanical engineering)

536.7
D8

Durham, Franklin P
Thermodynamics. New York, Prentice-Hall, 1954.
312 p. illus. 8 x 6 in.

547
F51

Fieser, Louis Frederick, 1899-
Organic chemistry, by Louis F. Fieser and Mary Fieser. 3rd ed. New York, Reinhold, 1956.
1125 p. illus., diagrs. 9 x 6 in.

Ref.
661.3
F8

Freeman, Mitchell
New practical formulary. New York, Chemical Pub. Co., 1955.
370 p. 8 x 6 in

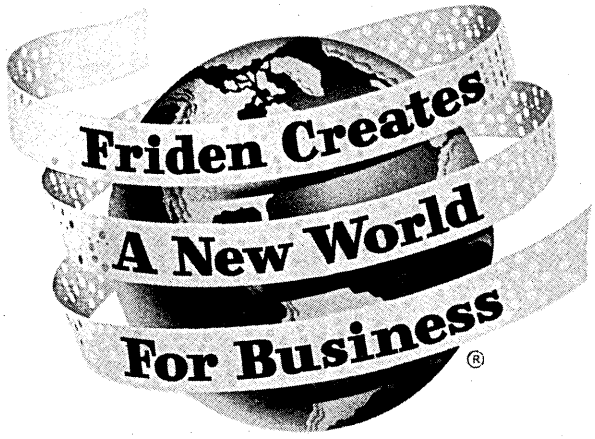
621.89
F9

Fuller, Dudley D
Theory and practice of lubrication for engineers. New York, Wiley [1956;
438 p. illus. 8 x 6 in.

530.3
H2

Handbuch der physik. Hrsg. von S. Flügge.
Bd. 19, Electrical conductivity I. Berlin, Springer-Verlag, 1956.
411 p. diagrs. 10 x 7 in.


SPECIAL NOTE:
...Additional information
concerning these applications
or your particular application
may be secured from the
Friden man in your area.
CALL HIM!




# Friden, *Inc.*

SAN LEANDRO • CALIFORNIA

PLANTS IN:
SAN LEANDRO, CALIFORNIA • ROCHESTER, NEW YORK
LEWISTOWN, PENNSYLVANIA • NIJMEGEN, HOLLAND

SALES AND SERVICE THROUGHOUT THE WORLD

SP-8604-R5-ROCH

PRINTED IN U.S.A.