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INFORMATION CIRCULAR

PROCEDURE OF THE PURCHASING AND SUPPLY
DEPARTMENTS OF THE MIAMI COPPER CO., MIAMI, ARIZ.

BY

Fred L. Bishop and Albert E. Keller
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PROCEDURE OF THE PURCHASING AND SUPPLY DEPARTMENTS OF THE MIAMI COPPER CO., MIAMI, ARIZ.¹

By Fred L. Bishop² and Albert E. Keller³

INTRODUCTION

This paper describing the methods employed in the purchasing and supply departments of the Miami Copper Co., Miami, Ariz., is one of a series being prepared for and published by the United States Bureau of Mines on office practice in mining operations.

GENERAL DESCRIPTION

The Miami Copper Co.'s plant is located about 1 mile from the town of Miami, in the Globe-Miami Mining District, Gila County, Ariz.

The property consists of a complete mining plant, concentrator, high-pressure steam power plant, and many other attendant structures. In normal times the company employs about 1,500 men, and mines and mills about 6,000,000 tons of ore annually.

The average inventory investment amounts to approximately $700,000, which turns over about three times a year; that is, in the neighborhood of $2,000,000 worth of supplies are purchased and used annually in the operation of the plant.

The procedures of the purchasing department and the supply department are consolidated in this one paper because both departments are in charge of one man, the purchasing agent. This method of operation facilitates the handling of both departments, because the usual gap so often existing between two individual departments is eliminated together with the accompanying loss of time in handling transactions between them. The plan also eliminates the duplication of records and effects a reduction in the combined operating expenses as against those of the individual departments.

The departments have two warehouses, the main one adjoining the plant buildings where it is readily accessible to all plant departments, except the power-house department. The other warehouse is about ½ mile distant at the industrial-railway yard which connects with a transcontinental railroad. The purchasing and supply offices are in the main warehouse, where they can closely supervise the receiving and issuing of supplies.

The systems used in these two departments are the result of considerable effort in handling the average inventories necessary for a company of this size at a minimum of inventory investment and operating expense.

The printed forms used in this combined system are shown in the section of this paper entitled "Detailed procedure of purchasing department and supply department."

¹ - The Bureau of Mines will welcome reprinting of this paper, provided the following footnote acknowledgment is used:

"Reprinted from U. S. Bureau of Mines Information Circular 6623."

² - Purchasing agent, Miami Copper Co., Miami, Ariz.

³ - Chief mine accountant, U. S. Bureau of Mines.
SUPPLIES

The supplies issued amount to approximately $165,000 monthly, and are distributed in
more than 400 accounts through an average of 3,600 individual supply orders on the store-
keeper each month. These orders do not include the daily issuance of such quantity items as
fuel oil, flotation reagents, drill steel, and grinding balls.

The flotation reagents, drill steel, and grinding balls are charged out at the end of
the month, but the fuel oil used is charged out semi-monthly. This method, of course, elimi-
nates the necessity of handling numerous individual supply orders, which is a big factor in
reducing them to only 3,600 monthly.

This volume of business with its attendant procedures is handled by 23 people, five of
whom, including the purchasing agent, operate the office. The remaining 18 persons are em-
ployed in the warehouse building and in the outside storage yards, the work at which includes
trucking from the railroad depot to the warehouse and also the delivery service to the various
departments. Two men are helpers on trucks and eight form an unloading and loading crew.
These eight men spend considerable time in unloading timber from railway cars and reloading
it on mine cars for transporting underground. They also handle other carload items such as
steel, pipe, grinding balls, machinery, xanthate, cement, etc. Sometimes, however, it is
temporarily necessary to increase this crew when deliveries from the railroad company are
above normal. This temporary increase eliminates congestion in the company's yard and the
accrual of demurrage charges.

Classifications

The warehouse supplies are grouped into the following 23 classifications with a separate
account in the ledger for each:

- Air-drill stock
- Bolts, nuts, washers and rivets
- Brick and cement
- Castings
- Coal and coke
- Drill steel
- Electrical supplies
- Explosives
- Flotation reagents
- Gasoline and oils
- Grinding balls
- Iron and steel
- Lumber
- Machinery
- Machinery parts
- Miscellaneous supplies
- Packing, waste, hose and belting
- Painters' supplies
- Pipe and fittings
- Plumbers' supplies
- Railway supplies
- Stationery and office equipment
- Tools

These classifications are further subdivided into approximately 8,000 items, with a
separate loose-leaf ledger sheet, form 10 (fig. 14), for each item.

Locations

The warehouse supplies are stored in 16 different locations, as follows:

<table>
<thead>
<tr>
<th>No.</th>
<th>Location</th>
<th>No.</th>
<th>Location</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Main warehouse (inside)</td>
<td>4</td>
<td>Second floor annex</td>
</tr>
<tr>
<td>2</td>
<td>Pipe and bar steel racks and heavy warehouse</td>
<td>5</td>
<td>Main warehouse (outside)</td>
</tr>
<tr>
<td>3</td>
<td>First floor annex</td>
<td>6</td>
<td>Railway yard and lower warehouse</td>
</tr>
<tr>
<td>No.</td>
<td>Location</td>
<td>No.</td>
<td>Location</td>
</tr>
<tr>
<td>-----</td>
<td>-------------------------------</td>
<td>-------------------</td>
<td>---------------------------------</td>
</tr>
<tr>
<td>7</td>
<td>Power house</td>
<td>12</td>
<td>Plate shop</td>
</tr>
<tr>
<td>8</td>
<td>Mill yard</td>
<td>13</td>
<td>Churn-drill warehouse</td>
</tr>
<tr>
<td>9</td>
<td>Mine yard</td>
<td>14</td>
<td>Oil house</td>
</tr>
<tr>
<td>10</td>
<td>Carpenter shop</td>
<td>15</td>
<td>Belt and hose house</td>
</tr>
<tr>
<td>11</td>
<td>Saw-mill stock</td>
<td>16</td>
<td>Old oil house</td>
</tr>
</tbody>
</table>

The reason for storing supplies in so many different locations is for convenience in handling from storage to point of consumption. This is explained as follows:

<table>
<thead>
<tr>
<th>Location No.</th>
<th>Storage Contents</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Frequently-moving and small items</td>
</tr>
<tr>
<td>2</td>
<td>Pipe, steel, and heavy items</td>
</tr>
<tr>
<td>3</td>
<td>Principally machinery parts</td>
</tr>
<tr>
<td>4</td>
<td>Do.</td>
</tr>
<tr>
<td>5</td>
<td>Heavy castings</td>
</tr>
<tr>
<td>6</td>
<td>Timber, large pipe, cement, hoist ropes, fuse, carbide, and other bulky items, all of which are handled advantageously from that point</td>
</tr>
<tr>
<td>7 to 13</td>
<td>7 to 13, inclusive — Heavy material used exclusively by the respective departments</td>
</tr>
<tr>
<td>14</td>
<td>Oils, gasoline and inflammable material</td>
</tr>
<tr>
<td>15</td>
<td>Rubber goods</td>
</tr>
<tr>
<td>16</td>
<td>Obsolete items</td>
</tr>
</tbody>
</table>

**Accounting**

When posting from an invoice to form 10, the location of the material is entered in the "location" square in the lower right corner of the form. This reference is made because the supplies are in many different places over a considerable area; by referring to the ledger sheet they are easily located for inventory purposes, and also by employees who are asked to issue supplies in emergency cases when regular employees are not on shift and who might not be familiar with their location. In storing supplies for a plant of this size, it must be remembered that many items are carried which are necessary to the continuity of operation but which may be seldom used and might be lost track of unless their location is recorded.

For emergency purposes a small quantity of supplies is carried in an underground supply station on the 620-foot level. These are charged out of the warehouse stock at time of transferring underground.

The supply department, under this plan of operation, handles the accounting for deferred charges covering major repairs and replacements. For instance, charges for a $3,000 article might be spread over a period of six months. Accordingly the supply classification would be credited with $500 per month, and the account benefited would be charged a like amount. In this particular illustration, as soon as the $2,000 article is transferred from the warehouse, six separate orders on the storekeeper, form 12, would be written up and placed in a suspense file. Each month thereafter, until all have been used, one of them would be removed from the file and put through the current warehouse supply records in the usual manner.

**INVOICES**

Invoices, when received, are rubber-stamped to show:
a - Date of receipt of goods,
b - Checking of extensions, and
c - Approval of prices.

The next operation is checking the invoice against the office copy of the order, form 3-1 (fig. 6), by pencil-checking the items invoiced, also showing on rubber stamp impression on form 3-1 a symbol designation, and checking in the "invoice received" column. Then the invoice is checked for extensions, prices, f.o.b. point, and filed with a copy of the order, except in case of discount invoices, in which instance one copy is promptly vouchedered. The net invoices are paid 30 days after date. The three copies are kept on the order file until the material has been received and records have been completed on the order, at which time the original and one copy are passed to a "tickler" file, and vouchedered by the purchasing department when due. Before vouchering, the "f.o.b. point" is noted, and if transportation charges have not been prepaid on an f.o.b.-destination shipment, deduction of the charges is made on the voucher. Upon arrival of the material, the warehouseman checks it and lists all the items on the receiving report, form 6, which together with the transportation bill, is passed to the office. One copy of each of these forms is attached to the office copy of the invoice. All invoices are numbered consecutively and the related papers bear the invoice number. The invoice is then indexed alphabetically under firm name, on a 3 by 5 inch card and filed numerically. This card record shows the date, invoice number, order number, and amount of invoice.

Payment of Invoices

Under this system of office operation, the invoices are vouchedered by the purchasing department, rather than by the accounting or treasury department, as is done by most companies. Likewise any correspondence concerning adjustments, errors, freight deductions, etc., are handled by the purchasing department. All invoices are vouchedered on form 15 (fig. 19), in quadruplicate. The original, duplicate, and triplicate are delivered to the Miami accounting office; the original is properly signed there, and mailed to the payee; the duplicate is retained by the Miami accounting office for record and file; the triplicate is mailed to the New York office for its files; and the quadruplicate, which is a copy on blank paper, remains in the office of the purchasing department. The quadruplicate is filed alphabetically and serves as a quick reference for all transactions with each firm. A copy of the invoice, or invoices, being paid, is attached to the duplicate and triplicate copy of the voucher, forms 15-A and 15-B, both of which are approved by the purchasing agent. The voucher checks themselves, all of which are drawn on New York banks, are signed by the general manager and the chief clerk.

CASH DISCOUNTS

The cash discounts deducted from vendors' invoices are not considered a reduction in the cost of supplies purchased. These discounts are allowed in consideration of prepayment of the invoices before they are due; hence the discount is treated as an earning.

OPERATING EXPENSE

The monthly operating expenses of the combined purchasing department and the supply department are absorbed by the mining department and the milling department - half to each. This equal distribution is made because, over a period of years, it has been observed that the supplies used by each of these departments is approximately the same amount.
Figure 1. Monthly inventory of supplies
Figure 2.—Monthly supplies purchased and issued
### Figure 3. Requisition on purchasing department

**MIAMI COPPER COMPANY**

Requisition No: 12642

<table>
<thead>
<tr>
<th>Last Order</th>
<th>On Hand</th>
<th>Quantity Wanted</th>
<th>ARTICLES</th>
</tr>
</thead>
<tbody>
<tr>
<td>12089</td>
<td>50</td>
<td>dozen #4 Miners' Shovels</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Long handle - Round point</td>
<td></td>
</tr>
</tbody>
</table>

Stock Item (Yes) (No)  
Ordered by: [Name]  
Required for: [Name]  
Date Required: 12-20-31

(Signed) [Signature]

---

**Figure 4. Inquiry form**

**MIAMI COPPER COMPANY**

Brown Shovel Co., PURCHASING DEPARTMENT

Chicago, Ills.

Miami, Arizona  Oct. 25, 1931

Kindly quote hereon your lowest price on the following material:

Each item must be priced separately. Show discounts only when standard lists apply. Your quotation must reach us on or before Nov. 1, 1931.

<table>
<thead>
<tr>
<th>Quantity</th>
<th>MATERIAL</th>
<th>Unit</th>
<th>Price or Discount</th>
<th>Weight</th>
</tr>
</thead>
<tbody>
<tr>
<td>50</td>
<td>Doz #4 Miners' Shovels, L. H., R. P.</td>
<td>Ibg</td>
<td>10%</td>
<td>3600</td>
</tr>
</tbody>
</table>

Material offered can be shipped from [City] within [Days] days after receipt of order at price quoted F. O. B. [City].

Invoice subject to discount of [Percentage] per cent for cash in [Days] days from date of invoice.

Date: [Date]

(Sign here) [Signature]

---

Form 2
MIAMI COPPER COMPANY
MIAMI, ARIZONA

Order No. 11772

Brown Shovel Company,
Chicago, Ill.

Please fill the following order on account of the MIAMI COPPER CO. and forward INVOICE IN TRIPlicate and ORIGINaL bill of lading to this office.

If terms are not marked on invoice we will deduct 2% for each in ten days.

MIAMI COPPER COMPANY,

Purchasing Agent.

12th June 1931

Form 3

Figure 5.- Original and record copy of order form
STATISTICS

For ready reference as to different phases of the business, various graphic charts are prepared which quickly picture useful information over a long period of time. Two of these charts are reproduced. One of them (fig. 2) plots the monthly inventory of supplies, also the monthly supplies purchased and issued. The other one (fig. 1) plots the number of orders, form 12, drawn on the storekeeper, also the number of items covered by the orders. This first chart covers a period of three years.

DETAILED PROCEDURE OF PURCHASING AND SUPPLY DEPARTMENTS

For the purpose of more clearly illustrating the detailed procedure of the combined departments, the following pages outline the procedure in the purchase of 50 dozen No. 40 miners' shovels at $10 per dozen, and in the issue of one dozen of these shovels. All of the forms used in these departments from the time the requisition is made until the shovels are received and some of them issued, including showing the balance on inventory, and complete entries on the forms, are described in this example.

Requisition on Purchasing Department

Form 1 (fig. 3).—It will be noted that form 1, Requisition on Purchasing Department, has been issued for 50 dozen miners' shovels. In the lower left corner it is indicated that these are wanted for stock purposes. By this method the supply department knows that upon arrival these shovels are to be placed in the warehouse stock. The date required is also an important factor, because in many instances requisitions are written for urgent items; but in the case illustrated about two months delivery is acceptable. This form is issued by department heads for their own requirements, which are not controlled by the supply department. On regular stock items the supply department keeps a minimum on hand, this quantity depending on consumption. Form 1 is made in duplicate, the requisitioner retaining the duplicate copy.

Inquiry Form

Form 2 (fig. 4).—As is indicated, this form is sent (in this particular illustration) to the various suppliers of shovels to secure prices, delivery, etc.

Order Form

Form 3 (fig. 5).—When quotations have been received on form 2 and it has been decided from whom the most advantageous purchase can be made, order form 3 is written for the shovels in question. One original and four carbon copies are made of the order. The original is mailed to the vendor; the duplicate copy is retained in the purchasing department office; the triplicate copy is used by the warehouse foreman for the purpose of information as to kind and size of material expected, and also for checking receipt of the material; the quadruplicate copy is sent to the department which requisitioned the material; and the fifth copy is sent to the New York office of the company for their records. On the purchasing department's copy is shown a complete record of receipt of invoice, bill of lading, date of shipment, date of receipt of material, etc., also the invoice number covering the particular shipment. All unfilled orders are kept on a current file until the material is received and all papers have been passed, at which time they are filed numerically in a permanent post binder.
Immediately after the orders are written they are indexed on 3 by 5 inch card records, first under the name of the vendor and then under the name of the item.

**B Order Form**

**Form 3A** (fig. 6).— Temporarily deviating from the shovel transaction at this point, attention is called to form 3-A, known as a "B" order. This form is used only for small items purchased from merchants within the Miami district. It is made in triplicate, the original being sent to the vendor, the duplicate copy retained in the purchasing department office for purposes of record, the same as order blank form 3, and the triplicate copy sent to the warehouse foreman for the purpose of checking receipt of material.

**Requisition on New York Purchasing Department**

**Form 3-B** (fig. 7).— This form is sent by the Miami office to the New York purchasing department, when requisitioning material for that office to purchase:

(a) Under certain contracts,
(b) Unusually large quantities, or
(c) Material which is produced in the East and can be purchased more advantageously through the New York purchasing department.

This form is made in duplicate, the original is mailed to the New York office, and the duplicate is retained in the Miami purchasing department office.

The New York office furnishes to the Miami office three copies of all orders placed by them. These copies are used for checking against the requisition drawn on the New York office, and for completing the files in the same manner as is done on order form 3.

**Acknowledgment Tracer**

**Form 4** (fig. 8).— When the stub attached to the top of order, form 3, is not promptly mailed by the vendor to acknowledge receipt of the order, a postal card, form 4, is immediately sent to him. This standardized postal card shows whether or not the order was shipped, and at the same time impresses upon the firm the importance of using the acknowledgment stub. This form of tracer for acknowledgment of the shovels ordered is shown in the exhibit.

**Tracer for Shipment, or Invoice**

**Form 5** (fig. 9).— When it is apparent that the vendors are slow in making shipment, or in rendering an invoice, form 5 is mailed to them.

**Receiving Report**

**Form 6** (fig. 10).— Form 6 is made up by the warehouse foreman upon receipt of material. In the exhibit it is made up to cover the 50 dozen shovels ordered on form 3. This report is prepared in duplicate, and the lower part, or inspection report, is executed by the warehouse foreman covering all material that he is qualified to inspect. If, however, the material consists of intricate pieces of machinery, etc., the warehouse foreman ignores the inspection report blank, and both copies of the receiving report are passed into the purchasing department office for noting receipt of material on order form 3.
Figure 6.—Original and second and third copies of B order form
MIAMI COPPER COMPANY

MIAMI, ARIZ. ____________________________________

REQUISITION NO. 9601

PLEASE FURNISH THE FOLLOWING MATERIAL, SHIPPING SAME VIA:

Form 38

Figure 7.— Original and duplicate of form for making requisitions on the New York purchasing department
Miami, Arizona.
Date 11/13/31

Gentlemen:

Please refer to our order No. 11772. The stub attached to top of order is intended for you to fill out and return promptly and serves to acknowledge receipt of order, also inform us as to date of shipment.

Please comply with our request on this and future orders.

MIAMI COPPER COMPANY

Figure 8.—Acknowledgment tracer

Miami, Arizona,
Nov 22, 1931

Gentlemen:

Kindly advise by return mail when we may expect shipment of material on our order:
No. 11772
60 doz. Shovels

MIAMI COPPER COMPANY,
Purchasing Dept.

Figure 9.—Tracer for shipment, or invoice

MIAMI COPPER COMPANY
Receiving Report

<table>
<thead>
<tr>
<th>From</th>
<th>Brown, Shovel Co.</th>
<th>Chicago, Ill.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Quantity</td>
<td>50</td>
<td></td>
</tr>
<tr>
<td>Name of Article</td>
<td>L.H. GP Shovels</td>
<td></td>
</tr>
<tr>
<td>Weight</td>
<td>3000</td>
<td></td>
</tr>
</tbody>
</table>

(Stock) Location #7

INSPECTION REPORT

Above material, per Recp., has been placed. Furnish "Order on Storekeeper" to cover.

Material listed has been examined and found to be:

OK

NOTE: If not ordered, indicate by O.K.;
If not as ordered, state particulars.

Examined by: A.J.

Figure 10.—Receiving report, made in duplicate
Miami, Arizona.
Dec. 6, 1931

Gentlemen:

Our order plainly specifies that invoices should be rendered in triplicate, accompanied by shipping documents. Your invoice is returned for the following documents indicated by check mark:

- BILL OF LADING
- EXPRESS RECEIPT
- INVOICE IN TRIPlicate

Your immediate attention will enable us to pay your invoice when due.

MIAMI COPPER COMPANY

Form 7

Figure 11.- Tracer for additional copies of invoice or shipping papers

FUEL OIL UNLOADING REPORT

<table>
<thead>
<tr>
<th>DATE</th>
</tr>
</thead>
</table>

<table>
<thead>
<tr>
<th>INCHES OIL PUMPED TO HILL TANKS</th>
</tr>
</thead>
<tbody>
<tr>
<td>Car</td>
</tr>
<tr>
<td>--------</td>
</tr>
<tr>
<td></td>
</tr>
<tr>
<td></td>
</tr>
<tr>
<td></td>
</tr>
<tr>
<td></td>
</tr>
<tr>
<td></td>
</tr>
</tbody>
</table>

Form 8

Figure 12.- Oil receiving report
MIAMI COPPER COMPANY

To Purchasing Agent:

I certify that the following tools wanted by Mr. John Brown #1071 will be required for use in his work with the Miami Copper Co.

1 - #17 Combination Square with Center Head - 18" Blade. L. S. Starrett Catalog #144 page 71
1 - #4 Screw Pitch Gauge. L. S. Starrett Catalog #144 page 701

Approved:

[Signature]

Department Head

Figure 13. - Employee's requisition for tools

Figure 14. - Stock ledger sheet
In the instance of the 50 dozen shovels which have been inspected and approved by the warehouse foreman, the duplicate copy of the receiving report is sent to the original requisitioner, to notify him of arrival of the goods.

In the event that the warehouse foreman does not feel qualified to approve the material received, the original copy of the inspection report is sent to the department head who requisitioned the material, asking him to have it inspected by engineers and to execute and return the report. It is important to follow this method of handling the inspection report, as it guards against accepting material that does not come up to the specifications. The invoice, or shipping manifest, is not used for checking the material into the warehouse.

Tracer for Additional Copies of Invoice or Shipping Papers

Form 7 (fig. 11).—This form is self-explanatory. It is used when sellers do not comply with instructions contained on order blank, form 3. A tracer for bill of lading covering the shovels ordered is also shown.

Oil Receiving Report

Form 8 (fig. 12).—This form is used by the man in charge of receiving and unloading fuel oil, who is directly under the supervision of the purchasing department. All information on this form is filled in by the unloader, except columns marked "Degrees Baumé at 60° F." and "Overage or Shortage – Gallons." Entries in these two columns are made by the clerks in the purchasing department, and are used as a basis of adjustment in case of shortage or overage.

Employees' Requisition for Tools

Form 9 (fig. 13).—It is the policy of the company to issue from warehouse stock, or to buy such tools as employees require in their work. Form 9, after being signed by the department head, is submitted by the employee wanting tools.

Stock Ledger Sheet

Form 10 (fig. 14).—This form is used as a stock record of all material carried in the supply department, with the exception of fuel oil and timber, which, for convenience, are carried on form 11. Form 10 is carried in loose-leaf binders with a separate sheet for each article. The name of the article is written at the bottom of the sheet and is always visible when the book is open.

There is one division of columns for debits, and the remainder of the sheet, printed on both sides, is for credits. This style is necessary because there are more credit (issue) entries than there are debit (purchase) entries. In the exhibit there are shown the transactions involved in handling shovels purchased on form 3, from the entry of receipt of shovels, charging out 12 of them to account 19, to the inventory balance as of January 1, 1932. As a matter of explanation, in the event an additional lot of shovels is purchased at a different price, the average cost price for the entire quantity on hand at any one time would be used in charging out the shovels as issued. This method is more satisfactory than the "oldest-cost-first" plan.

The minimum shown on form 10 is regulated by consumption and the length of time required to replenish stocks with new material. The warehouse stocks governed by the purchasing department are handled in the following manner:
When the stock clerk posts the credits to the stock sheets and finds that a stock is approaching its minimum quantity, a metal signal tab is clipped onto the stock sheet in the lower right corner. The stock clerk then goes through the books monthly and requisitions the needed material. However, when a large quantity of a particular supply is drawn from stock and the total on hand is reduced to, or below, the minimum requirements the stock clerk immediately writes a requisition for supplies to replenish the item.

In the lower right corner of the stock sheet, a short column is headed "Ordered." This space is used by the stock clerk for noting in lead pencil his requisition number and quantity ordered, thus removing the signal from the sheet. This reference is left on the sheet until the quantity ordered has been received and posted on the sheet. It is then erased and the space is again ready for use the next time that material is ordered. By this method, when hurriedly perusing this sheet in the meantime, the clerk is informed that the material is on order.

Stock Sheet for Timber and Oil

Form 11 (fig. 15).—Form 11 is used for recording only stocks of timber and fuel oil. This larger size is used because the debit entries are so numerous—the commodities being received daily—that form 10 would not be suitable. The issues are posted daily on form 11 in the specially provided date columns appearing across the top of the form. The prices used in charging out the amount of timber and fuel oil are the average cost for the month.

Order on Storekeeper

Form 12 (fig. 16).—Form 12 is used for ordering supplies from stock and is signed only by authorized persons in the various departments. These supplies are credited daily on form 10, and are charged daily on the Supplies Issued sheet, form 13, after which they are filed numerically, according to account charged. When a department is interested in knowing the total charges against a particular account, form 12 is made in duplicate, the copy being sent to the department ordering, after prices and extensions have been shown thereon. In the exhibit it will be noted that 12 of the shovels ordered have been issued from stock.

Supplies Issued Sheet

Form 13 (fig. 17).—Form 12 is posted on the Supplies Issued sheets, form 13, which, at the close of each month, are sent to the accounting office to be entered in the general books of account. The left column on this sheet headed "Invoice Number" is used for entering the number of the invoice covering special items, which are purchased for specific purposes and delivered directly to the point of consumption, and are not entered on warehouse stock records. This class of material is charged out on form 12, the same as warehouse material, but this special plan makes it unnecessary to enter such material on the stock sheets.

One sheet is used monthly for each account number to which supplies have been charged. From the exhibit it is noted that the 12 shovels issued have been charged to account 19, which represents the 720-foot haulage level, and the classification credited in "Tools." The headings of the various ruled columns are for the 24 classifications of supplies.

Record of Supplies Used

Form 14 (fig. 18).—In studying form 13 the question might arise as to where and when the accounting department obtains the total monthly amount to be credited to the various
Form 11
Figure 15.—Stock sheet for lumber and oil
MIAMI COPPER COMPANY
ORDER ON STOREKEEPER

To Storekeeper:

Please deliver to bearer the following material:

<table>
<thead>
<tr>
<th>Quantity</th>
<th>ARTICLES</th>
<th>Class</th>
<th>Price</th>
<th>Amount</th>
</tr>
</thead>
<tbody>
<tr>
<td>12</td>
<td>#4 L.H. P.P. Miners' shoes, tools</td>
<td>8888</td>
<td>1000</td>
<td></td>
</tr>
</tbody>
</table>

This order must show:
Department where material is used
Job No. or Shop No.
Exact nature of work material is to be used for

Charge Account No. 19

To be used for: 720' level Haulage

Drifts

Form 12

Figure 16.— Order on storekeeper, in duplicate
<table>
<thead>
<tr>
<th>INV NO.</th>
<th>INV.</th>
<th>DAY</th>
<th>TOTAL</th>
<th>TOTAL</th>
<th>INV. NO.</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>73-12-4</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>72-242</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Figure 17:** Supplies issued sheet
<table>
<thead>
<tr>
<th>Date</th>
<th>Title of Account</th>
<th>Item</th>
<th>Unit</th>
<th>Quantity</th>
<th>Price</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Figure 18:** Record of supplies used
To Brown Shovel Company,
Chicago, Illinois.

<table>
<thead>
<tr>
<th>ITEMS</th>
<th>AMOUNT</th>
</tr>
</thead>
<tbody>
<tr>
<td>Inv 12/1/31 (40922)</td>
<td>500.00</td>
</tr>
<tr>
<td>Less 5%</td>
<td>10.00</td>
</tr>
<tr>
<td></td>
<td>490.00</td>
</tr>
</tbody>
</table>

No receipt necessary

If incorrect do not use check, but return both statement and check for correction. Otherwise detach check for payment and retain statement.

Miami Copper Company

Miami, Ariz. Dec. 8, 1931

Pay to the order of Brown Shovel Company $490.00

In full settlement of account as shown on accompanying statement

To Central Hanover Bank & Trust Co.
New York, N.Y.

Form 15

Figure 19.—Voucher check and statement, made in triplicate.
supply classification accounts carried in their general ledger. At this point is exhibited form 14 which, however, is not a part of the supply department's system. It is kept by the accounting department for the purpose of summarizing the credits mentioned from form 13, Supplies Used. The totals of the classification columns on form 14 are credited by the accounting department to the respective classification accounts in the general ledger. Since only the totals are posted monthly it is apparent that the use of this form eliminates many individual credit postings to the supply classification accounts.

**Voucher Check and Statement**

*Form 15 (fig. 19).*—The Voucher Check (form 15) is partially discussed in the preamble of this article, but it might be well to state that the original copy contains a detachable statement showing the payee's invoice number, date, discount taken, freight deductions, and in fact a complete résumé of the account. This of course is mailed with the check portion, which is detached from the statement by the payee before depositing the check in bank. On this statement is also shown (in brackets) the number assigned to the invoice upon its receipt. This makes a ready reference when checking an account, because, as previously explained, all invoices are filed numerically according to the consecutive number assigned upon their receipt. In the exhibit it will be noted that the 50 dozen shovels purchased on form 3 have now been paid for.

**Physical Inventory Form**

*Form 16 (fig. 20).*—This form is used for recording the physical inventory. The items are listed from the stock books, and the sheet is passed to the warehouse employees for recording quantities. They show the date the count is made, and the location or stock number, and the quantity, in their respective columns. This sheet is immediately passed to the supply office and reconciled with the stock ledger. An example of inventory of the shovels purchased has been entered in the exhibit.

**Detailed Inventory Form**

*Form 17 (fig. 21).*—This form is used for submitting the inventory at the end of each fiscal year and is written up in triplicate. The original is sent to the New York office, the duplicate copy is delivered to the Miami accounting office, and the triplicate copy is retained in the purchasing department office.

The procedure of writing up this inventory is as follows: At the end of the inventory period — December 31 — the description of the material, its classification, and article number are transferred from the stock ledger to the inventory sheets as shown in the exhibit. Then on January 1, after form 12, Orders on Storekeeper for December 31 stock withdrawals have been posted to form 10, the quantity of supplies on hand and the unit price, as shown on form 10 is entered by one of the clerks who signs his initials on the line marked "Entered by."

These entries are then called back by another clerk, who initials on the line "Called by." The clerk who checks the called figures on the inventory sheet signs his initials on the line "Checked by." The next step is the extension, which is made by a clerk who initials on the line "Extended by." These extensions are then checked by a clerk who initials on the line "Examined by."

After the entire inventory is written, the pages are numbered consecutively in the upper right corner, and recapitulations are made of the 24 supply classifications. By this method the entire inventory of about 8,000 items may be completed in four or five days.
Price Record Card

Form 18 (fig. 22).—Form 18 is a record of prices paid for materials. It is posted from the invoice just before placing it in its permanent file. This record, however, does not show every purchase. Entries are made on it only when price changes occur, whether up or down. These price record cards are filed alphabetically, under name of the article, and serve as a ready reference of actual costs.

FILING SYSTEMS

Specification and Parts Lists File

This file contains specifications and parts lists of machinery and equipment. These lists are filed alphabetically under the name of the article, in an upright filing cabinet using 9 by 12 inch folders.

Price File.—A price file is also maintained, using an upright filing cabinet for 9 by 12 inch folders. Contracts and current price lists, with discounts, are also kept in an upright filing cabinet taking 9 by 12 inch folders. These are arranged alphabetically according to the name of the article. Alphabetical division cards are used in the cabinet drawer. Contracts have separate folders, with the name of the commodity written on them. The more important commodities have separate folders, and the less important ones are placed in folders under the letter designating their name.

Correspondence File

The correspondence is filed alphabetically according to subject, in an upright filing cabinet using 9 by 12 inch folders. In this system there are established the following divisions and master numbers, and each subject under a particular division is given a sub-number. For instance, under the heading of "Electrical Supplies" which is represented by master number 9, the designation for motors is 9-1; for transformers, 9-2; etc.

Master No.
1 - Miscellaneous mine and milling machinery
2 - Miscellaneous supplies
3 - Iron and steel articles
4 - Timber and lumber
5 - Drills and parts
6 - Automobiles and trucks
7 - Building material
8 - Power-plant equipment
9 - Electrical supplies
10 - Oils and greases
20 - Railroad matters
21 - Accounts
22 - Miscellaneous matters

Catalog File

Catalogs are filed in built-in shelves, and are grouped under the following general headings:

10950
Number
1 - Electrical supplies
2 - General hardware
3 - Instruments
4 - Iron and steel
5 - Machinery
6 - Miscellaneous
7 - Paint, glass, and wall coverings
8 - Pipe and fittings
9 - Power-plant equipment
10 - Rubber goods, packing, and insulation
11 - Stationery, and office equipment
12 - Tools
13 - Transmission and material-handling equipment.

The general headings are recorded on 3 by 5 inch cards. These headings are further subdivided under individual items. An example is taken from a card headed "Tools":

Number
12 - Tools
12 - 1 to 49 - Shovels
12 - 50 to 99 - Jacks
12 - 100 to 149 - Welding and cutting
12 - 150 to 199 - Abrasives
12 - 200 to 249 - Brushes and brooms
12 - 250 to 299 - Machine tools
12 - 300 to 349 - Wood-working machine tools
12 - 350 to 399 - Mechanic's tools

Numbers for 49 catalogs on shovels have been allowed. These catalogs are numbered 12-1, 12-2, etc. which permits room for expansion when new ones are received, thus keeping within the same group all catalogs covering certain articles. The catalogs are also alphabetically indexed on 3 by 5 inch card records under firm name.
### FORMS USED

<table>
<thead>
<tr>
<th>Figure</th>
<th>Form No.</th>
<th>Purpose</th>
<th>Actual size, inches</th>
</tr>
</thead>
<tbody>
<tr>
<td>3</td>
<td>1</td>
<td>Requisition on purchasing department</td>
<td>8½ x 7½</td>
</tr>
<tr>
<td>4</td>
<td>2</td>
<td>Inquiry form</td>
<td>8½ x 10½</td>
</tr>
<tr>
<td>5</td>
<td>3</td>
<td>Order form</td>
<td>8½ x 14</td>
</tr>
<tr>
<td>6</td>
<td>3A</td>
<td>&quot;B&quot; Order form</td>
<td>8½ x 10½</td>
</tr>
<tr>
<td>7</td>
<td>3B</td>
<td>Requisition on New York purchasing department</td>
<td>8½ x 14</td>
</tr>
<tr>
<td>8</td>
<td>4</td>
<td>Acknowledgment tracer</td>
<td>5½ x 3½</td>
</tr>
<tr>
<td>9</td>
<td>5</td>
<td>Tracer for shipment, or invoice</td>
<td>5½ x 3½</td>
</tr>
<tr>
<td>10</td>
<td>6</td>
<td>Receiving report</td>
<td>8½ x 7</td>
</tr>
<tr>
<td>11</td>
<td>7</td>
<td>Tracer for additional copies of invoice or shipping papers</td>
<td>4½ x 5½</td>
</tr>
<tr>
<td>12</td>
<td>8</td>
<td>Oil receiving report</td>
<td>8½ x 5½</td>
</tr>
<tr>
<td>13</td>
<td>9</td>
<td>Employees' requisition for tools</td>
<td>8½ x 5½</td>
</tr>
<tr>
<td>14</td>
<td>10</td>
<td>Stock ledger sheet</td>
<td>12 x 4½</td>
</tr>
<tr>
<td>15</td>
<td>11</td>
<td>Stock sheet for timber and oil</td>
<td>17½ x 16½</td>
</tr>
<tr>
<td>16</td>
<td>12</td>
<td>Order on storekeeper</td>
<td>7½ x 4½</td>
</tr>
<tr>
<td>17</td>
<td>13</td>
<td>Supplies issued sheet</td>
<td>16½ x 15½</td>
</tr>
<tr>
<td>18</td>
<td>14</td>
<td>Record of supplies used</td>
<td>38 x 16½</td>
</tr>
<tr>
<td>19</td>
<td>15</td>
<td>Voucher check and statement</td>
<td>8½ x 8</td>
</tr>
<tr>
<td></td>
<td>15A</td>
<td>Duplicate of voucher</td>
<td>8½ x 8</td>
</tr>
<tr>
<td></td>
<td>15B</td>
<td>TriPLICATE of voucher</td>
<td>8½ x 8</td>
</tr>
<tr>
<td>20</td>
<td>16</td>
<td>Physical inventory form</td>
<td>8½ x 11</td>
</tr>
<tr>
<td>21</td>
<td>17</td>
<td>Detailed inventory form</td>
<td>9½ x 12</td>
</tr>
<tr>
<td>22</td>
<td>18</td>
<td>Price record card</td>
<td>8 x 5</td>
</tr>
</tbody>
</table>
### 1931 Inventory

**Tools**

<table>
<thead>
<tr>
<th>DATE</th>
<th>STOCK NUMBER</th>
<th>QUANTITY</th>
<th>MATERIAL</th>
</tr>
</thead>
<tbody>
<tr>
<td>1/18/31</td>
<td>588</td>
<td>✔️</td>
<td>4 LARP Miners Shovels</td>
</tr>
</tbody>
</table>

---

**Form 16**

**Figure 20.** Physical inventory blank

**MIAMI COPPER COMPANY**

**INVENTORY**

<table>
<thead>
<tr>
<th>QUANTITY</th>
<th>DESCRIPTION</th>
<th>PRICE</th>
<th>EXTENSION</th>
</tr>
</thead>
<tbody>
<tr>
<td>588</td>
<td>4 LARP Miners Shovels</td>
<td>5.95</td>
<td>1000</td>
</tr>
</tbody>
</table>

---

**Form 17**

**Figure 21.** Detailed inventory blank

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**Form 18**

**Figure 22.** Price record card