APPENDICES

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APPENDIX A.—SCHEDULES.

The information contained in the statistics for mines, quarries, and petroleum and natural gas wells for 1909 was collected by means of a general schedule and certain supplementary schedules. The same general schedule was used for all mines and quarries and in slightly modified form for petroleum and natural gas wells.

In addition to the general schedule there was a special "Administrative and general office" schedule. This schedule was used in all cases where a number of mines, quarries, or wells were managed from a central office and on it were reported the capital, persons employed, expenses, etc., which could not be distributed among the different plants.

Supplemental schedules were used for particular industries and were designed to develop statistics peculiar to the different industries to which they relate, such as the quantities and values of products, and in some cases data with regard to the mechanical equipment of the plant. These special schedules are very numerous and for lack of space can not be reproduced in full. The supplemental schedule used for iron mines is given, however, for the purpose of illustrating the general character of these supplemental schedules. There is also here reproduced the general schedule used in reporting mines and quarries and the administrative and general office schedule.

Following is a list of the products for which separate supplemental schedules were used, the character of the schedule being in each case similar to that for iron mines, but the contents varying to suit the conditions peculiar to each industry.

Asphaltum and bituminous rock.	Coal, bituminous.
Bluestone.	Copper.
Buhrstones and millstones.	Granite.
Clay.	Gypsum.
Coal, anthracite.	Iron.
Lead and zinc.	Precious metals, deep mines.
Limestone.	Precious metals, placer mines.
Manganese.	Pyrite.
Manganiferous iron.	Quicksilver.
Marble.	Sandstone.
Mica.	Slate.
Petroleum and natural gas.	Talc and soapstone.
Phosphate rock.	Traprock.

For the other industries, noted below, a separate supplemental schedule was not provided, all being reported either on a schedule prepared for "Rare Metals" or on a common supplemental schedule designated "Miscellaneous mining industries."

Antimony.	Marl.
Asbestos.	Mineral pigments.
Barytes.	Molybdenum.
Bauxite.	Monazite and zircon.
Bismuth.	Nickel and cobalt.
Borax.	Oilstones, scythestones, and whetstones.
Chromite.	Peat.
Corundum and emery.	Precious stones.
Feldspar.	Pumice.
Fluorspar.	Quartz.
Fuller's earth.	Sulphur.
Garnet.	Tin.
Graphite.	Titanium.
Grindstones.	Tripoli.
Infusorial earth.	Tungsten.
Lithium.	Uranium.
Lithographic stone.	Vanadium.
Magnesite.	

DEPARTMENT OF COMMERCE AND LABOR,

BUREAU OF THE CENSUS.

8-1577

[LLI-266]

CENSUS OF MINES AND QUARRIES, 1909.

GENERAL SCHEDULE.

1. *Description of mine or quarry:* If the information given on this schedule embraces more than one mine or quarry, give the name and location of each on supplemental schedule.

Name of mine or quarry.....

Name of operator.....

If operator is not owner of the mine or quarry, give name and address of owner

.....

Number of mines or quarries covered by this report.....

Location of mine or quarry { State..... County..... / City or town..... Post office..... }

Post-office address of general office.....

Period covered by this report: From....., 19....., to....., 19...

Character of organization.....

The answer should relate to the last day of the period covered by the report and should be one of the following: *Individual, general partnership, limited partnership, incorporated company, cooperative association,* or *other.*

1. *Description of mine or quarry*—Continued.

Number of proprietors and partnership members, if a nonincorporated organization..... Give number of members on last day of period covered by this report. If partnership, give both active and silent partners. If cooperative society, give number of members of society. { Men..... / Women..... }

Number of proprietors, if any, regularly performing manual labor in or about mine or quarry.....

Number of stockholders, if an incorporated organization.....

Give number of stockholders on the last day of the period covered by this report.

WASHINGTON, D. C., *January 3, 1910.*

The Census of Mines and Quarries is taken in conformity with the requirements of the act of Congress approved July 2, 1909. Reports are required on this schedule for all mines and quarries that were in operation for development or productive purposes during any portion of the year ending December 31, 1909, but the statistics may pertain to the business year which most nearly conforms to the calendar year. The law makes it obligatory upon the owner or operator of any mine or quarry to furnish Census data.

To avoid duplicate inquiries, the Geological Survey, which collects annual statistics of production, and the Bureau of the Census are cooperating. In addition to the report on this blank, a report must be made on the special supplemental schedule.

All answers will be held absolutely confidential. No publication will be made in the Census reports disclosing the name or operations of individual establishments in any particular, and the information will be used only for the statistical purposes for which it is supplied. The act of Congress provides that the Bureau of the Census shall not permit any other than the sworn employees of the Bureau to examine the individual reports. It also provides that any employee who shall, without the authority of the Director of the Census, publish or communicate any information coming into his possession, shall be guilty of a misdemeanor, and upon conviction be fined not to exceed $1,000, or be imprisoned not to exceed two years, or both, in the discretion of the Court.

Amounts and values are to be obtained from book accounts, if such accounts are available. Each question should be answered. If any question is found not applicable and no amounts are reported, write the word "None." Do not duplicate any item of expense.

E. DANA DURAND,
Director of the Census.

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2. *Time in operation and hours worked:*

Number of days in operation during the year.....

Give the number of days the mine or quarry, or any part of the mine or quarry, was in operation during the year. Days when shut down for repairs, or for other causes, and there was neither *development work* nor *production*, should *not* be included. Do not include Sundays and holidays unless plant was in actual operation.

Number of hours normally worked by wage earners: (*a*) Per shift..... (*b*) Per week.....

Give the prevailing practice followed during the year, without attempting to indicate variations from this practice. All that it is desired to know is the practice generally prevailing in respect to the hours of labor of employees.

3. *Capital invested and area of mineral and other lands:*

Amount of capital, both owned and borrowed, invested by operator.....

$.....

The answer should show the total amount of capital, owned and borrowed, invested by the operator in the enterprise on the last day of the business year reported, as shown by his books. Do *not* include securities and loans representing investments in other enterprises.

Mineral and other lands: Number of acres owned or leased by operator.

Include only lands actually pertaining to the mining property covered by this report; not undeveloped lands elsewhere owned by the same operator.

	Owned by operator.	Held under lease by operator.	Sublet to others.
Mineral or coal land (acres).....	.....	.....	.....
Timber land not included above (acres).....	.....	.....	.....
Other land (acres).....	.....	.....	.....
Total (acres).....	.....	.....	.....

4. *Salaried employees: Number, December 15, 1909, as per pay roll.* If data are not obtainable for that day or month, give the data for nearest representative or normal day, and state day and month here.....

	Men.	*Women.*
Salaried officers of corporations.....	.....	.....
Superintendents and managers.....	.....	.....
Clerks, stenographers, and other salaried employees.....	.....	.....
Total.....	.....	.....

5. *Wage earners, including employees paid by ton, car, yard, or other unit: Number, December 15, 1909, as per pay roll.* If data are not obtainable for that day or month, give data for same day as for Inquiry 4. Answers should include all persons working in connection with mine or quarry, whether employed directly by owner or working for lessee, contractor, or other. Include overseers and foremen receiving wages and performing work similar to men over whom they have charge; those whose duties are wholly supervisory should be reported under second item of Inquiry 4.

	Above ground.	Below ground.
Employed directly by operator:		
Engineers, firemen, machinists, carpenters, and other mechanics.....	.....	.....
Miners, quarrymen, and stonecutters.....	.....	.....
Miners' helpers (16 years or over).....	.....	.....
All other employees (16 years or over).....	.....	.....
Boys under 16 years.....	.....	.....
Total employed directly by operator.....	.....	.....
Employed otherwise, as by contractor, etc.....	.....	.....
Total employed directly and otherwise.....	.....	.....

Number of women, if any, employed in or about the mine or quarry, and included above.....

6. *Wage earners, including employees paid by ton, car, yard, or other unit: Number, as per pay rolls or time records on 15th day of each month of the period covered by this report.* If data are not obtainable for that day, give data for nearest representative day.

EMPLOYED DIRECTLY BY OPERATOR.						EMPLOYED OTHERWISE, AS BY CONTRACTOR, ETC.					
Month.	Number.	Month.	Number.	Month.	Number.	Month.	Number.	Month.	Number.	Month.	Number.
Jan.....	.....	May.....	.....	Sept.....	.....	Jan.....	.....	May.....	.....	Sept.....	.....
Feb.....	.....	June.....	.....	Oct.....	.....	Feb.....	.....	June.....	.....	Oct.....	.....
Mar.....	.....	July.....	.....	Nov.....	.....	Mar.....	.....	July.....	.....	Nov.....	.....
Apr.....	.....	Aug.....	.....	Dec.....	.....	Apr.....	.....	Aug.....	.....	Dec.....	.....

7. *Salary and wage payments: Total amounts paid in salaries and wages during the year covered by this report.* Wages should be net wages, after deducting charges for supplies furnished by the company to miners or quarrymen and stonecutters, such as explosives, lamp oil, blacksmithing, etc., as well as charges for power, hoisting, superintendence, etc. Do not include amount paid for contract work if not done by the regular employees, as the amount paid for such work should be reported under Inquiry 9. See note to Inquiry 5 as to overseers and foremen.

Salaried officers of corporations..... $.....

Superintendents and managers..... $.....

Clerks, stenographers, and other salaried employees..... $.....

Wage earners, paid by unit of time, ton, car, foot, or yard..... $.....
Include payments to contract miners compensated by these units.

7. *Salary and wage payments*—Continued.

Miners and others compensated by share of product..... $.....
This should include total amount paid to block lessees, leasers, tributers, and all others performing work for share of product, after royalties charged have been deducted.

Total..... $.....

Amount charged to miners, quarrymen, and stonecutters for explosives, lamp oil, and blacksmithing charges, etc., as well as charges for power, hoisting, superintendence, etc., deducted from gross wages in computing net wages above..... $.....

Rate of royalty received by operator if any work done is compensated for by share of product..... .....

8. *Materials, supplies, and fuel: Total cost of all used during the year covered by this report.* This inquiry relates to all materials and supplies of every description and fuel used during the year covered by the report for any purpose in connection with the development or operation of the mine or quarry. If freight paid on materials is kept in a separate account, enter in the proper line below; otherwise include the cost in answers to the first two items. Include in the first item the cost of the following materials: Lumber and timber used for repairs, mine supports, track ties, and all other purposes; iron and steel for blacksmithing, rails, frogs, sleepers, etc., for tracks and repairs; renewals and repairs of tools; explosives and oil used directly or sold to employees; water for boilers and other purposes; machinery supplies, etc.

Total cost of all materials (other than fuel) and supplies used during the year ..... $.....

Cost of fuel and rent of power ..... $.....

Amount paid, if any, for freight on above which has not already been included ..... $.....

Total cost of materials, supplies, and fuel, and freight on same ..... $.....

9. *Miscellaneous expenses: Amount paid during the year for the following items.* This should include all items of expense incident to the year's business not accounted for under Inquiries 7 and 8. It should not include interest, whether on bonds or otherwise, or dividends on stock, or allowances for depreciation.

Rent and royalties ..... $.....
Include amounts paid for rent of mine or quarry, and plant and buildings thereon, royalty on product, and for tunnel, water, transportation, and drainage privileges.

Taxes ..... $.....

Contract work not included in answer to Inquiry 7 ..... $.....
Include tunneling, shaft sinking, boring test holes, etc., during the year, if not done by employees hired directly by this operator.

Rent of offices and buildings, other than at mine or quarry, use of patents, insurance, ordinary repairs of buildings and machinery, advertising, damages, traveling expenses, and all other sundry expenses ..... $.....

Total ..... $.....

10. *Development work* ..... $.....
Give total cost of all development work during the year, whether done directly by regular employees or by contract, which cost should be included in answers to Inquiries 7, 8, and 9.

11. *Power: Mechanical power employed in or about the mine or quarry.* Give all mechanical power employed, either owned or rented, including the number and horsepower of all engines, motors, water wheels, etc., used for hoisting, ventilating, pumping, or other purposes.

CLASS.	Number.	Total horse-power.
a. Power owned:		
Engines: Steam		
Gas (include all internal-combustion engines)		
Water wheels (irrespective of ownership of water power)		
Water motors (irrespective of ownership of water supply)		
Other power (specify kind)		
Total		
Electric motors (run by current generated by establishment reporting)		
b. Power rented *from* other establishments:		
Electric motors (include motors owned by the establishment but operated by rented power)		
Other power (specify kind)		

c. Name and address of establishment supplying rented power .....

.....

d. Name of stream or lake from which water power is obtained to generate power, whether direct or electric.
Give answer regardless of question whether power is owned or rented from others.

.....

12. *Remarks:* .....

.....

CERTIFICATE: *This is to certify,* that the information contained in this schedule and in the supplemental schedule is complete and correct, to the best of my knowledge and belief.

....
(Signature of person furnishing the information.) (Signature of Special Agent or Enumerator.)

.....
(Title and address.)

DEPARTMENT OF COMMERCE AND LABOR, BUREAU OF THE CENSUS.

8—1713 [KK 55—324]

ADMINISTRATIVE AND GENERAL OFFICES, 1909.

SUPPLEMENTAL SCHEDULE.

Name of company or owner .....

General office: State ..... City or town ..... Street and No. .....

(The statement relative to confidential treatment of information furnished in the General Schedules applies equally to information furnished in this schedule.)

When two or more manufacturing plants, mines, quarries, or reduction works are operated from a central office, the capital, employees, and expenses of such office which can not be assigned to any of the plants should be reported on this schedule. *No data reported in this schedule should be included in the reports for the different* plants, for which separate reports are to be made.

1. *Capital invested:* Amount of capital invested—owned and borrowed. The answer should show the total amount of capital, both owned and borrowed, on the last day of the business year reported. All the items of fixed and live capital may be taken at the amounts carried on the books. If lands or buildings are rented, that fact should be stated and no value given. If a part of the land or buildings is owned, the remainder being rented, that fact should be so stated and only the value of the owned property given. Do *not* include securities and loans representing investments in other enterprises.

Land, buildings, machinery, and tools ..... $.....

Materials, stocks in process, finished products, fuel, and miscellaneous supplies ..... $.....

Cash, plus trading and operating accounts and bills receivable ..... $.....

Total ..... $.....

2. *Salaried employees and wage earners:* Number, December 15, 1909, as per pay roll. Account for all persons not included in the separate reports for the individual plants. If data are not obtainable for the day or month mentioned, give the data for the nearest representative or normal day, and state day and month here: .....

	Men.	*Women.*
Salaried officers of corporations		
Superintendents, managers, engineers, and other technical experts		
Clerks, stenographers, salesmen, and other salaried employees		
Total		
Other employees, janitors, etc		

3. *Salary and wage payments:* Total amounts paid in salaries and wages during the period covered by this report. Classification should conform to Inquiry 2. Do not include amount paid for contract work, if not done by the regular employees, as the amount paid for such work should be reported under Inquiry 4.

Salaried officers of corporations ..... $.....

Superintendents, managers, engineers, and other technical experts ..... $.....

Clerks, stenographers, salesmen, and other salaried employees ..... $.....

Other employees, janitors, etc ..... $.....

Total ..... $.....

4. *Miscellaneous expenses:* All items of general expenses not accounted for under Inquiry 3, or included in the separate reports for the individual plants, must be reported here. It should *not* include interest, whether on bonds or otherwise, or dividends on stock, or allowances for depreciation.

Taxes { *a.* Internal revenue (Federal)..... $.....
b. Other..... $.....

Amount paid for rent of offices and buildings, rent of machinery, royalties, use of patents, insurance, advertising, office supplies, law expenses, injuries, and damages, telegraph and telephone service, gas, and all other sundries not reported elsewhere..... $.....

Contract work not included in answer to Inquiry 3..... $.....

Total..... $.....

5. *Name and location of the manufacturing plants, mines, quarries, or reduction works controlled from the office represented by this report:* If there is not sufficient space here, give information on additional sheets and attach.

Name	Location
.....	.....
.....	.....

CERTIFICATE: *This is to certify* that the infomation contained in this schedule is complete and correct to the best of my knowledge and belief.

..... (Signature of person furnishing information.)

..... (Signature of Special Agent or Enumerator.)

..... (Title and address.)

DEPARTMENT OF COMMERCE AND LABOR,
BUREAU OF THE CENSUS.

DEPARTMENT OF THE INTERIOR,
UNITED STATES GEOLOGICAL SURVEY.

8—1815 [LL 29—382]

IRON MINES, 1909.

SUPPLEMENTAL SCHEDULE.

Name of mine.....

Name of operator.....

Location of mine: State..... County.....

Nearest city or town.....

Post-office address of general office.....Street and No.....

A report must also be made on the General Census Schedule for Mines and Quarries. Both reports should cover the same period.

WASHINGTON, D. C., *January 3, 1910.*

To avoid duplicate inquiries, the Geological Survey, which collects annual statistics of production of minerals, and the Bureau of the Census are cooperating with respect to securing data for the year 1909. This schedule has been prepared by the United States Geological Survey and calls for information desired by the Survey, but such information will also be used by the Bureau of the Census in connection with the census statistics of 1909. The schedules will be presented in most cases by special agents of the Bureau of the Census. All answers will be held absolutely confidential. The Geological Survey will not publish them in such a way as to permit of the identification of the operations of individual establishments, or disclose them to any other individual or to any bureau or department of the Government other than the Census Bureau. The Census Bureau will also treat any information thus secured as subject to the provisions of law regarding confidential treatment contained in the act of Congress of July 2, 1909, for taking the Thirteenth and subsequent decennial censuses, as more fully set forth in the general census schedule of mines and quarries.

E. DANA DURAND,
Director of the Census.

GEO. OTIS SMITH,
Director, U. S. Geological Survey.

1. *Products:*

(*a*) Ore, classified by its mineralogical character: Give quantity of all ore mined, sold, or used during the year.

	Mined (tons, 2,240 lbs.).	Sold or used (tons, 2,240 lbs.).
Limonite or brown hematite.....	.....	.....
Red hematite, specular or fossil ore.....	.....	.....
Magnetic ore.....	.....	.....
Carbonate or black-band ore.....	.....	.....
Total.....	.....	.....

(*b*) Ore sold or used: Give the value of the ore as entered on the books of the operator. If the ore was used in blast furnaces owned by the same establishment, and it is the practice of the concern to credit the mine department and charge the blast-furnace department with the value of the ore, state the amount so credited and charged. If the accounts are not so kept, estimate the value of the ore f. o. b. mine at the prices ruling in the vicinity and state the amount to be an estimate.

	Quantity (tons, 2,240 lbs.).	Value.
Used in blast furnaces owned by the same operator.....	.....	$.....
Sold f. o. b. mine.....	.....	$.....
Sold f. o. b. lake ports, blast furnaces, or other market.....	.....	$.....

1. *Products*—Continued.

Total gross value.....		$.....
Deductions on ore sold f. o. b. market:		
Haulage.....Per ton (2,240 lbs.) $..... total..		$.....
Freight.....Per ton (2,240 lbs.) $..... total..		$.....
Commission and storage expenditures.....Per ton (2,240 lbs.) $..... total..		$.....
Total value at mine.....		$.....

2. *Disposition of ore:* If any of the ore reported under Inquiry 1 was used for fluxing purposes or in the manufacture of paint, state quantity and value so used.

	Quantity (tons 2,240 lbs.).	Value.
For flux.....	.....	$.....
For paint.....	.....	$.....

3. *Stocks:* Report all stocks of iron ore on hand.

	January 1, 1909.	December 31, 1909.
At mine.....Tons (2,240 lbs.)..	.....	.....
At lake ports or elsewhere.....Tons (2,240 lbs.)..	.....	.....

4. *Metallic content of the ore:*

(*a*) Iron, average percentage.....

(*b*) Manganese (if the manganese content of the iron ore has a commercial value):

Percentage.....; quantity, tons (2,240 lbs.)... .....

Value (included under Inquiry 1)..... $.....

5. *Machinery:* *Number.*

Power drills—

Operated by compressed air..... .....

Operated by other power (specify kind of power used)). .....

Steam shovels..... .....

6. *Miscellaneous:*

(*a*) Kind of mine, open-pit or underground..... .....

(*b*) Quantity of ore beneficiated, tons (2,240 lbs.): Roasted.....; concentrated.....

7. *Remarks:*

.....

.....

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APPENDIX B.—INSTRUCTIONS TO SPECIAL AGENTS.

The following instructions to special agents and clerks employed in taking the census of manufactures and mines and quarries are hereby approved. The canvass will be made under the supervision of the chief statistician for manufactures, and all special agents and clerks engaged in field work must follow the instructions of that official.

There is but a limited time in which to complete this work, and it is essential that all employees exert themselves to the utmost. Those who do good work will be reassigned to other districts and retained in the service until the work is finished.

DAILY REPORTS AND CORRESPONDENCE.

1. **Daily reports.**—All special agents must make daily work reports (Form 8-185c) for every day they are actually employed and for which compensation is claimed, including Sundays, whether work or travel is actually performed on Sunday or not. The daily reports of the agents working under the supervision of chief special agents, together with all schedules taken daily, as herein provided, must be forwarded at the close of the day to the chief special agent in charge of the state, city, or district. Chief special agents must make weekly reports by letter, showing the progress of the work, and must forward daily by registered mail all schedules and daily reports received from the assistant agents. The daily reports and schedules secured by agents who do not work under the direction of a chief special agent must be forwarded daily to the Bureau of the Census.

2. **Registered mail.**—All schedules must be forwarded by registered mail in the return penalty envelope furnished for that purpose.

3. **Requests for supplies.**—Letters relative to the progress of the work and requests for supplies, instructions, etc., must be addressed to the Director of the Census, Washington, D. C. Inquiries or requisitions of any character must not be made upon the daily report, but should be made in a separate letter.

4. **Date of completing work.**—All special agents must give sufficient notice of the date they will complete the work to which they are assigned, so that they may be assigned to other territory without loss of time.

LISTS AND CANVASS OF ESTABLISHMENTS.

5. **Index cards.**—To assist in the canvass of establishments, each special agent will be furnished with index cards containing the names and addresses of establishments located in his district. These cards will be arranged by localities and as nearly as possible in the order in which the special agent will visit the establishments with the least expenditure of time. When it is found necessary to change the prescribed route to save time, or for other reasons, the office must be notified by letter. The special agents who do not work under the supervision of a chief special agent will be furnished a typewritten list of the cards so that they can keep a record of the disposition of each card. This list must be returned to the office upon the completion of the canvass in each district.

6. **Unlisted establishments.**—Although the list so furnished has been made as complete as possible, it has not been practicable to secure absolute accuracy and completeness, and *special agents must be constantly on the alert to discover establishments not named on the cards. They will be held strictly accountable for a complete canvass of the district to which they are assigned.* They must make careful inquiry at each establishment for other manufactories located in that vicinity; and in rural districts they should be on the lookout for establishments in adjoining towns for which they have no cards. Where additional establishments are found, returns must be obtained for them, and in all such cases the entry "No index card for this establishment" must be made on the bottom of the title-page of the schedule.

7. **Cards for nonmanufacturing establishments.**—On the other hand, it is possible that some establishments for which index cards are furnished the agent may be found to be engaged in industries which are to be omitted from the census of manufactures. In such cases a notation must be made on the card and daily report stating the reasons why the report was not secured. It is not sufficient to state: "Not a manufacturing establishment." The character of the business must be briefly and accurately described by such a notation as the following: "Retail confectioner," "Restaurant," "Caterer," "Carpenter shop," "Custom gristmill at remote point," "Dyeing and cleaning wearing apparel," "Drug store," "Product less than $500," etc.

8. **Return of cards.**—Special agents in every instance will be held to a strict accountability for all index cards assigned them. A return must be secured from each establishment or a satisfactory explanation given on the back of the card, such as mentioned in paragraph 7, if the establishment is not a manufacturing establishment, or such as: "General office located at ———, where information must be secured;" or "Establishment removed to ———" (giving date of removal and stating whether manufacturing was done at the place of canvass during the year 1909).

Each index card is numbered and the same number is on the typewritten list of establishments. *This number must in all cases be written in the upper right-hand corner of the schedule and the left-hand margin of the daily report.*

Each card must be returned either attached to the appropriate schedule or with such an explanation as above indicated. For certain large cities, where there is a chief special agent, the cards should be retained by him until the completion of the canvass.

9. **Change in name of establishment.**—If a change has been made in the name or location of the factory since the index card was prepared, or if a report is secured for an establishment under a different name from that appearing on the card, the card must be changed to agree with the new conditions and the daily report must state this change. No erasures, however, are to be made on the index card.

10. **Establishments having office outside district.**—The office has endeavored to ascertain the name and location of all factories for which the census reports will be made from a central office. The cards for such factories are stamped "Central office." The special agents must visit these plants and ascertain definitely whether the census report will or will not be made at the central office. If it will be made at the central office, the agent will take no further action in regard to it, unless the "Central office" also is in his district, but report the fact on his daily report as indicated above. In some cases where plants are controlled from a central office the Bureau of the Census has been advised that the census report will be made at the plant. In such cases the card has been stamped "information at the plant," and the agent will be expected to obtain from the plant all information required to complete the report. In case the special agent discovers an establishment in his district for which the reports must be secured elsewhere, and which has not been indicated on the index card as a "Central office" as above indicated, the facts must be reported on the index card and on the daily report and the card must be returned. It is important that the *precise* address (street num-

ber or room in office building) of such office be stated. If, in such cases, answers to any of the inquiries can be obtained at the factory canvassed, they should be obtained and the partially prepared schedule forwarded with full explanation. These facts should also be reported to the office and to the agent in charge of the city where the report is to be secured by the use of postal cards, Form 8-1619 or 8-1616. The agent will then take no further action with regard to securing the report unless he receives further instructions.

11. **Factories outside agent's district.**—Reports must not be secured from the office of any establishment having no factory within the limits of the district being canvassed unless the index card states that the report must be secured at the office or special instructions are received. In the absence of such instructions it may be assumed that the establishment will make report to the agent for the place where the factory is located.

12. **Additional factories of same owner.**—It will frequently be found that the individual or company reporting to the agent operates also a factory, or factories, outside of the agent's district. Where it is found that reports for such a factory can be secured only at the office the agent is visiting, he should obtain the report and call attention to it on his daily work report, so that proper notice may be given to the agent in the district where the factory is located. Each report of a factory outside the district of the agent must be taken under the local name of such factory and show its location by state, city, or town, etc. The correct location of the factory is of vital importance and must be carefully reported. If, on the other hand, the reports for these outside factories must be secured at the factories themselves, a slip should be attached to the report secured for the local factory, giving the location of each of the outside factories, and the name and the place where the information can be obtained.

13. **Idle establishments.**—All establishments that commenced operations or did any work during the census year ending December 31, 1909, must be reported, whether they were in operation at the time of canvass or at the end of the year 1909 or not. No report should be secured for establishments which were closed or idle during the whole of the census year nor for abandoned or dismantled establishments.

METHOD OF SECURING SCHEDULES.

14. **Mailing of schedules to manufacturers.**—A few days prior to the day when a given concern is to be canvassed the chief special agent (or the local special agent not working under a chief special agent) should mail to the owner a copy of the General Schedule, with the appropriate supplemental schedule if one is required, together with a request (on a form to be furnished by the Census Bureau) that it be filled out for the special agent on his arrival. The envelopes inclosing the schedules and letter from the director will be addressed and arranged in packages corresponding with the arrangement of the index cards. The agents can then mail them as the canvass progresses, so that they will be received by the manufacturer a few days before he calls.

15. **Forwarding of schedules by manufacturers.**—In some cases the manufacturer may (although manufacturers are requested not to do so) have already forwarded his schedule to Washington before the agent arrives. If the agent is satisfied that the schedule has been sent by mail, and if the manufacturer declines to make a duplicate report, he must immediately notify the office by the use of postal card Form 8-1617, enter the fact on his daily report, and make the following entry on the index card: "Report sent by mail." In some cases the replies to the preliminary circular may be confused with the schedule. The agent must be certain that this is not the case before concluding that the report has been mailed. The agent should not accept a promise that the schedule will be sent to him or to Washington later, but should secure it in person.

16. **Schedules previously prepared by manufacturers.**—In case the manufacturer has already filled the schedule when the agent arrives, the agent should question him as to the source and accuracy of the information and should explain the meaning of any question concerning which the manufacturer is in doubt, and generally assure himself that the schedule has been filled out properly.

If a manufacturer insists upon sending his report to the Census Bureau by mail and not give it to the special agent, the agent should see that the schedule is properly prepared, furnish an addressed official envelope, and, if possible, see that the package is deposited in the mail. He must also give the name of the establishment on his daily report, with the statement that the schedule had been sent by mail.

17. **Promptness of agents.**—In many cases the schedule will not be ready when the agent arrives. In that event he should proceed to get the information immediately. The agent should, in every case, secure the schedule on his first visit, or in the case of large or complex establishments requiring more than one visit, should at least begin the actual work of compiling the data on his first visit. For a large majority of establishments the report can be prepared from information obtained from a short conversation. The making of future appointments for the preparation of the report should be avoided, as such appointments are very apt to lead to further delay.

It is not necessary that the agent shall enter into profuse explanations or give time to anything beyond the necessary work of interrogation. He should be prompt and decisive in announcing his object and making his inquiries, but in so doing he should be careful not to arouse antagonism or give offense.

18. **Answers to inquiries to be taken from books of accounts and records.**—The information secured must be accurate. In drafting the schedule every effort has been made to frame the inquiries in such a form that the answers to them can generally be taken directly from the books of accounts and the records of the establishment canvassed. The agent may find a disposition on the part of persons furnishing the information to give general statements or estimates, claiming that they approximate very closely the exact figures. In no case should these general statements or estimates be accepted where it is possible to secure the answers directly from the books of accounts and records. The fact that the consultation of such books and records may involve a greater expenditure of time and trouble is no justification for failure to secure the exact answers in such manner.

In the case of pay rolls and time records it will doubtless be necessary in many cases for the agent to perform the required work in person.

19. **Erroneous statements.**—The special agent must not accept answers which he knows, or has reason to believe, are false. He has a right to a true statement on every matter respecting which he is bound to inquire. In most cases if his informant gives him a round number (e. g., 6,000 or 200,000) it is likely to be only an estimate, and should not be accepted if more precise data can be secured. If any person should persist in making statements which are obviously erroneous, the special agent should enter upon the schedule the facts as nearly as he can ascertain them by his own observation or by inquiry of creditable persons and state how the information was secured. Chief special agents will when necessary take up such particular cases in person.

20. **Compulsory feature of census.**—It will generally be found that the person called upon will give the information without objection or delay. Special agents are therefore cautioned not to obtrude unnecessarily the compulsory feature of the law. Only where the information required by law is positively refused need the penalties of noncompliance be referred to. The special agent will then quietly but firmly point out the consequences of persistent refusal, quoting, if necessary, the provision of the law.

21. **Information confidential.**—Special agents are prohibited by law from delegating to any other person their authority to enter establishments and collect information.

Attention is called to the penal provisions in the census act, one of which provides that information gained by a special agent or by any other employee in the performance of his duties must not be disclosed to any person not authorized to receive the same, under a penalty of $1,000 and imprisonment for two years.

If manufacturers or others furnishing data object to a supposed disclosure of the secrets of their business, the special agent should assure them that the results of their individual business will not be made public and should call attention to the statement to that effect on the title-page of the schedule and to the provisions of the law. The agent may also explain that the information will not be used for the purposes of taxation, nor in any manner to identify the operations of the individual establishments, and will not be disclosed to any other bureau of the Federal Government. The intent of the law, which will be strictly carried out, is to prevent the disclosure of information which might operate to the detriment in any way of the person or establishment supplying the same.

WHAT CONSTITUTES AN ESTABLISHMENT—DIVIDED ESTABLISHMENTS.

22. **Definition of establishment.**—The term "establishment," as a unit of enumeration for this census, is deemed to be one or more factories, mills, or plants owned or controlled by one individual, partnership, corporation, or other owner, located in the same town or city, and for which one set of books of account is kept.

23. **Separate sets of books.**—When the owner operates two or more plants in the same town or city, and maintains separate sets of books for each, they should be treated as separate establishments, but if one set of books only is kept they should be treated as one establishment.

24. **Separation of localities.**—It is necessary, however, to publish separate statistics for the different states and for all cities with a population of 8,000 and over. Therefore, when the same owner operates two or more plants in different states or cities or operates one plant in a city and another outside of that city, *only one set of books being kept for all the plants*, one report must be prepared covering the entire establishment, and also additional reports covering the plant or plants in each state or city. All estimates necessary to make the complete reports for the separate plants must be carefully prepared in consultation with the person who furnishes the information and marked "Estimate."

25. **Separation of industries.**—It is also necessary to publish separately the statistics for the different industries as defined by the Census Bureau. Therefore, when two or more distinct industries, such as those indicated by the supplemental schedules, are carried on under the same ownership with only a single set of books, one report must be prepared covering the entire establishment, and additional separate reports for the different industries must be prepared in the same way as described in the preceding paragraph.

26. **Reports for same ownership.**—All reports for plants conducted under the same ownership, whether covered by a single set of books or by separate sets of books, must be fastened together and proper notation made of the fact in the daily report of the special agent.

27. **Establishments engaged in manufacturing and also in other business.**—A considerable number of establishments will be found which are engaged in manufacturing, and at the same time in some other nonmanufacturing branch of business or industry, with only a single set of books covering the combined business. In those cases where the other branches of business are incidental to the manufacturing business, or are insignificant in importance, the schedule should cover the entire business. In other cases where the other business is of importance the agent should prepare a schedule covering the manufacturing, following the instructions in paragraph 25.

The following cases will illustrate such combinations of manufacture with other industries:

Coal mining and the manufacture of coke.

Mining of iron ore and the manufacture of pig iron.

Cultivation of vegetables and fruits and canning of the same.

Catching of fish and oysters and canning of the same.

In these and similar cases a separate report for the manufacturing business must be carefully prepared, all estimates marked "Estimate," and the basis of the estimates described under "Remarks" or on a separate sheet. The value of materials produced by the establishment itself and used in its manufacturing may be taken either at the cost of production, including freight charges to point of consumption, or at the market value at the point of consumption, but preferably at the market value.

PREPARATION OF THE GENERAL SCHEDULE.

28. **General schedule required for each establishment.**—A general schedule must be prepared for each establishment reported except sawmills and, in addition, such special supplemental schedule or schedules as may apply to the industry, if any.

29. **Instructions to be strictly followed.**—The instructions printed on these schedules must be strictly followed by the agent. In a few industries instructions regarding certain points in the General Schedule are stated in the supplemental schedule. The instructions set forth below are additional to those there given and in no way modify them.

INQUIRY 1.—DESCRIPTION OF ESTABLISHMENT.

30. **Name of establishment.**—As separate reports are to be obtained for different establishments when conducted under the same ownership, the name of the establishment should be given as well as that of the owner.

31. **Name of owner.**—The answer desired is the name of the person, partnership, corporation, etc., operating the establishment, whether such operator owns the plant or merely leases it.

32. **Location of establishment.**—The exact location of the plant or plants covered by the report must be shown by the answers to this inquiry, and to the one "*Is establishment located within the corporate limits of the city or town?*" Precise information relative to these points must be given in order that the statistics of manufactures may be presented by cities or other civil divisions. When the establishment is on the boundary line, or part of the plant is located in one civil division and part in another, or there are any other complications, full information on this subject must be given under "Remarks."

33. **Post-office address of the general office.**—For the majority of the establishments this will be the same as the *Location of the establishment*, but in many cases they are different and inquiry should be made to develop this fact.

34. **Period covered by this report.**—Wherever possible the report should cover a period of twelve months, whether the establishment was in active operation during the whole of such period or not, and the answer to this question should show the whole period covered. In case, however, the establishment has been in active operation only a small portion of the twelve months, as often happens in seasonal industries such as canning, etc., that fact should be stated under "Remarks." In the case of establishments beginning operations for the first time during the year it will not be possible, however, to make the report cover the whole of the year. In such cases the answer to this question should show the period actually covered, and the fact should be noted under "Remarks" that the data relate to an establishment which began operations during the year.

It will be found that the ownership of some of the establishments canvassed has changed hands during the year. If the present proprietor can furnish data for the entire period they should be obtained from him, and the report should thus cover the combined operations of the establishment during the year while under the management of his predecessor as well as under his own management. If this can not be done the former proprietor should be located and the report for the other portion of the year obtained from him. If this is impracticable the present owner should be asked to give such information as he possesses regarding the general character and volume of business under the former owner, and the facts should be reported by the agent on a sheet attached to the schedule covering the present ownership.

The period covered, where possible, should be that of the year ending December 31, 1909. In the majority of cases the data can be secured for this year, for the business year of most establishments will correspond to the calendar year. Where, however, the business year of the establishment does not correspond to the calendar year, the data may be secured for such completed business year as corresponds most nearly to the calendar year 1909.

35. **Character of organization.**—This must be stated as one of the five kinds named in the schedule, or, if it is some other form, such other form must be definitely described.

36. **Number of proprietors and partnership members.**—The answer must show the number of individual proprietors and the number of members of all forms of ownership except incorporated companies.

37. **Number of stockholders, if an incorporated organization.**—If the number of stockholders on the last day of the period covered by the report can not be obtained, secure number on nearest day to such date, and give date to which the number relates in parentheses after the number of stockholders.

38. **Character of industry.**—As the statistics of manufactures will be presented by kinds and by classes of industries, it is essential that this inquiry be answered in such a way that the precise character of the work performed by each establishment can be clearly determined. In those cases where the establishment covers more than one distinct kind of manufacturing operations or products, or is engaged in any nonmanufacturing work, such as transportation, mining, etc., especial care should be exercised to show in the answer to this inquiry all the lines of work engaged in or all the products made. If necessary, additional information may be given under "Remarks." In all cases the particular articles produced should be named in the order of their importance; for example, "cigars, cigarettes, smoking and chewing tobacco" or "pig iron, billets, bars and wire." A general description, such as "tobacco factory" or "iron and steel," is not sufficiently specific. For the manufacture of clothing, neckwear, handkerchiefs, etc., state definitely whether "men's," "women's," or "children's."

INQUIRY 2.—TIME IN OPERATION AND HOURS WORKED.

39. **Days in operation during the year.**—The answer to this inquiry should show the entire number of days the establishment or any portion of it was in actual operation, whether working full time, part time, or overtime—that is, if the establishment was operated on a given day for 1 hour, 8 hours, or by two or more shifts for the entire 24 hours, the answer would be the same, namely, *1 day*. The full possible working time of an establishment, operating continuously, except on Sundays and holidays, is about 307 days, depending on the number of holidays.

40. **Number of hours normally worked by wage earners.**—"Per shift" refers to the number of hours worked by each set of wage earners, not the total number of hours worked per day, when two or more sets of workmen were employed. The number of hours worked "per week" is called for in order that the practice of the establishment relative to the working of only half a day or any other fraction of a day on Saturdays or under other circumstances may be brought out.

INQUIRY 3.—CAPITAL INVESTED.

41. **Capital invested: Amount of capital invested—owned and borrowed.**—The purpose of this inquiry is to determine the value of property employed by the establishment for the purposes of its productive operation, but not including rented property. Therefore both capital owned by the operator and capital borrowed by him is to be included; in other words, no deduction is to be made from the value of the assets by reason of liabilities for money due others.

The sum of the answers to the three items should show the total amount of capital invested by the operator of the establishment. The answer to item 3 should therefore include everything in the way of capital invested not included in answers to items 1 and 2. "Trading and operating accounts" refers to open accounts receivable.

42. **Depreciation.**—If the books of the establishment show specifically an item of depreciation charged against land, buildings, machinery, and tools, deduction of such depreciation should be made and the net value resulting after such deduction be given. If, however, the books are not kept so as to show clearly this item of depreciation, then this item should be disregarded and no deduction be made.

43. **Patent rights and good will** must not be considered as a part of the capital, except in so far as the value of these items may be included in other items as carried on the books of the establishment. If the books of the establishment, however, in any way segregate or report separately the value of such patent rights and good will, such value must not be included in any of the answers called for by Inquiry 3, but should be reported separately under "Remarks."

44. **Separation of manufacturing from other investments.**—In case manufacturing is carried on in connection with some other business, such as mining, the operation of an electric station or a railroad, and where only one set of books is kept for the entire business, the instructions in paragraph 27 should be followed. In case, as will sometimes happen, there are separate accounts showing the operation of different branches of the business, but only one account of the capital invested, the total investment for the combined business should be given in the schedule according to the books, and the proportion represented by the manufacturing business should be stated in the margin as nearly as it can be estimated, either in the form of a percentage of the total or in an estimated amount in dollars.

INQUIRIES 4 AND 5.—SALARIED EMPLOYEES—WAGE EARNERS, INCLUDING PIECEWORKERS.

45. **Purpose of inquiries—Selection of date.**—The purpose of these inquiries is to determine the number of persons employed on a given date by the manufacturing establishments of the country. So far as practicable, such data should relate to December 15, 1909. Cases will occur, however, where the information for this date can not or should not be obtained, due either to the fact that the establishment was not in operation on that date, that the book or time records for that date are not obtainable, or that at that time the number of employees was *very much* below the number to whom the establishment normally gives employment. In all such cases the records for the day nearest such date for which data can be obtained that are representative of the normal condition of the establishment as regards employment of labor should be taken. In the case of seasonal industries it may be necessary to secure data for a date several months removed from December 15. In those cases, where a date other than December 15, 1909, has to be selected, the tendency or inclination of the officers of the establishment furnishing the information will be to refer you to a day of maximum employment. This should be guarded against and a day of normal or average employment selected.

46. **Total number employed on a given day, not total number whose names appear on a given pay roll, desired.**—Note carefully that what is desired is the total number employed on a given day. This will in most cases be a number somewhat, and in certain cases considerably, smaller than the number of names appearing on the pay rolls consulted, owing to the fact that during the period covered by the pay rolls all will not be continuously employed, a considerable number working only certain of the days and others working on other days. Probably in the majority of cases the pay rolls and time records are kept in such a way that it is possible to get the record for a particular day, in which case the record for such a single day should be taken. In case this can not be done, the total number on the pay roll should be counted and noted on the margin, and a careful estimate of the average number employed during the period covered by the pay roll should be inserted in the blank spaces in the schedule.

47. **When estimates may be accepted.**—In case pay rolls or other records are not available for any normal or representative day, a careful estimate must be taken in substitution for data from records, and the fact that the data are based on such an estimate should be stated on the margin of the schedule.

In the case of establishments employing on an average not to exceed 25 persons, it is desirable but not imperative to consult the pay rolls or books to secure answers to these inquiries.

48. **Segregation according to sex and age periods.**—In all cases the total number of salaried employees and wage earners should be determined before the attempt is made to segregate them

according to sex and age period. In the majority of cases the records of the establishment will not show this segregation, and it will have to be made by means of a careful estimate by the officers, superintendents, foremen, or others who have personal knowledge or charge of the labor force. Great care should be exercised by the agent in seeing that this segregation is made by the person or persons most competent to do so and that it is carefully done.

49. **Officers of corporations** who receive no salaries, and directors who receive only a fee for attending meetings, must not be reported. All salaried officials, such as the president, vice president, secretary, and treasurer, who devote all or a considerable proportion of their time to the business, must be included.

50. **Classification of foremen and overseers.**—The three subinquiries of Inquiry 4 are intended to embrace all salaried, clerical, and supervisory employees as distinguished from wage earners. In some industries it is difficult to preserve this distinction, especially as to foremen and overseers. Foremen and overseers who have charge of a few workmen, but with little additional responsibility or pay, and who at the same time perform work similar to that of other wage earners, are not to be included as salaried employees; to come within the scope of Inquiry 4 they must devote the whole or the greater part of their time to supervision.

51. **Traveling salesmen.**—If the manufacturing department of an establishment turns over its product to a separate selling department at a given value or price, and if this factory value is reported in answer to Inquiry 10, instead of the selling value to the public, the traveling and other salesmen would be employed by the selling department, hence their number, salaries, and traveling expenses should not be reported in this schedule. In case the selling value of the product is reported in answer to Inquiry 10, the salesmen of the establishment are to be reported in Inquiry 4 and their salaries in Inquiry 7, and the traveling expenses and other expenses of selling must be included in the miscellaneous expenses reported in answer to Inquiry 9.

52. **Wage earners employed indirectly—Employees of independent contractors.**—In some establishments wage earners who actually work for the establishment may not appear upon its pay rolls, being indirectly employed through superintendents, heads of departments, foremen, and the like. Careful inquiry must be made to ascertain such conditions, and the number of persons so employed must be estimated as nearly as possible, and the basis of the estimate noted on the schedule.

On the other hand, answers to this inquiry should not include the employees of independent contractors having separate establishments, who perform work under contract for the establishment reporting. If such contractors are engaged in manufacturing, they should be reported in a separate schedule which will account for their employees.

53. **Convicts** employed under contract, piece price, or other system must not be included in reply to Inquiries 5, 6, or 7.

Inquiry 6.—Wage Earners Each Month.

54. **Number on 15th day of month.**—All of the instructions for Inquiries 4 and 5, except those pertaining to the segregation of employees and wage earners by sex and age periods, apply to this inquiry. Make entries for all months covered by the report. Take the 15th day of each month unless it falls on a Sunday or unless the pay roll for that day is lost. If the establishment was shut down on the 15th of the month, select a day nearest to that day for which a satisfactory record can be obtained and give the date selected.

Inquiry 7.—Salary and Wage Payments.

55. **Number employed.**—The instructions under Inquiries 4, 5, and 6 should be borne in mind in connection with Inquiry 7.

56. **Be careful to report separately** the amount paid the four classes of employees named. The total must be the entire amount paid as salaries and wages during the period covered by the report.

57. **Payments to contractors not to be included.**—Do not include amounts paid for contract work done by independent contractors, by persons working at their homes on materials furnished by the establishment, or by convict labor, but report such amounts in answer to Inquiry 9.

58. **Board and rent** when furnished as part compensation of employees should not be included as wages, but the expenses incurred by the establishment in furnishing the same should be included with other miscellaneous expenses in Inquiry 9, and the fact that employees, or part of them, receive board or rent free should be noted at the bottom of page 2 of the schedule.

59. **Commissions paid to traveling salesmen, bonuses, or percentages of profits** paid to officers, superintendents, foremen, or wage earners should be included in the amount of salaries or wages. This does not, of course, include dividends paid on stock in a corporation which officers, employees, or wage earners may hold.

Inquiry 8.—Materials, Mill Supplies, and Fuel.

60. **Definition of materials.**—The answer to this inquiry should give the cost of all materials and mill supplies of every description, whether raw or partly manufactured, and whether entering into the product, used as containers, or consumed in the process of manufacture.

61. **Materials used during year desired, not those purchased.**—Note especially that what is desired is the cost of the materials, mill supplies, and fuel used during the year, not the cost of those purchased during the year, which may be an entirely different thing. If the books do not show directly the cost of the materials consumed during the year, it should be computed by adding to the amount paid for materials purchased during the year any decrease in the inventory of materials on hand at the end of the year as compared with the beginning, or by deducting the increase in such inventory.

If the books of the establishment do not show the values of these articles on hand at the beginning and end of the year, but do show the cost of all these articles purchased or acquired during the year, and it is reasonably certain that there is no substantial difference between the values on hand at the beginning and at the end of the year, the figures showing the cost of these articles acquired during the year may be used in answer to this inquiry.

The first method, however, should be employed whenever possible. If the latter method is used, the fact should be stated on the margin of the schedule.

62. **Materials furnished by same establishment.**—Materials and mill supplies produced by the establishment itself during the year covered by the report and used by it in its further operations should not be duplicated by being again reported in its new form as material, since the cost of their production is included as labor or miscellaneous expenses under Inquiries 7 and 9. An illustration of this may be found in the manufacture of textiles, where yarn may be shown as material, but should not embrace any that was made during the year by the establishment reporting.

If the establishment produces certain materials both for its own use and for sale, that part used should not be included for the reason just given, but that part produced for sale should be included as a product in answer to Inquiry 10.

Where materials are obtained from another plant operated under the same ownership and for which a separate schedule is required, they should be reported as products in answer to Inquiry 10 on the schedule relating to the establishment producing them, and as materials in answer to Inquiry 8 on the schedule relating to the establishment acquiring them, and the value assigned them should be their cost to such establishment as shown on its books. If, however, no charge is made on the books, an estimate of the market value of the material at the works consuming it should be made and indicated as an estimate. For example, a concern may own a wood-pulp mill in one state and a paper mill in another state, using the pulp from the pulp mill. If the paper mill is charged

for the pulp, either at cost or at a market value or an arbitrary value, the figure actually charged should be used; otherwise the estimated market value of the pulp delivered at the paper mill.

In all cases of such transfer of the product from one establishment to another establishment under the same ownership or general management, and where the two are not treated by their owners or operators as independent establishments, with independent operating accounts, give, under the head of "Remarks," such information regarding the legal and working arrangements of the two establishments, and particularly the financial system followed in the utilization by one establishment of the products of another related one, as will enable the office to determine the nature of this relationship and assure itself that the method followed in filling the schedule for one of the establishments harmonizes with that followed in filling the schedule for the other, as this latter schedule may be secured by a different agent.

63. **Cost of fuel and rent of power.**—Include here all fuel used, whether for heat, light, or power, or for the process of manufacture itself, as in the case of coal used in gas plants. There are some establishments which use coal for producing coke or gas which they subsequently burn, and which may have records of the quantity and value of coke or gas consumed, as well as of the coal. In such cases report only the value of the coal consumed. (See instructions for Inquiry 12, par. 85.)

64. **Freight on materials.**—In many cases the cost of the materials will include the freight. If this is not the case, the total amount paid for freight on materials should be given in answer to this inquiry. Do not here include freight on finished products.

65. **Names of principal materials used.**—Name the materials as nearly as possible in the order of their importance as elements of cost. Specific information is required, as it will be of assistance in the classification of the establishment. For example, "chemicals" should not be reported as materials for a chemical establishment, but the names of the different ingredients consumed should be given in answer to this inquiry. The character of the materials should be consistent with the products reported in answer to Inquiry 10.

Inquiry 9.—Miscellaneous Expenses.

66. **Rent.**—If the general office, or other office buildings, are rented and are located elsewhere than at the factory, and the factory or part of it is also rented, the total rent being carried as one item on the books, the amount of rent chargeable to each service should be ascertained and entered separately in reply to the first and third subquestions of the inquiry, respectively. In case a rented factory has an office as part of the premises, report the entire rent under the first subdivision.

67. **Taxes.**—Internal revenue is a Federal tax and will be reported for comparatively few industries, such as the manufacture of cigars and tobacco, liquors, and oleomargarine. If the value of the product reported in answer to Inquiry 10 includes the amount of internal revenue, write the words "included in value of product," or if not so included, write "not included in value of product."

Other taxes must include all state, county, or city taxes, licenses, etc.

68. **Other miscellaneous expenses.**—The answer to the third item of this inquiry should include all expenses, *other than interest, dividends, and depreciation* that are incident to the business during the year. "Ordinary repairs of buildings and machinery" covers expense for such emergencies as repairing a leaky roof, a broken chimney, a break in the water pipes, repairing or putting in a new door or window, putting up temporary partitions, repairing or replacing broken or worn-out machinery, etc., but it does not include the erection of new buildings or other permanent additions to the plant, which must be included as capital.

69. **Contract work.**—The answer to this inquiry must include only the expenditures for work on the product reported in answer to Inquiry 10, and done by or under the supervision of contractors or by persons working at their homes independently of the regular employees; it must not include any part of the amount reported under salaries or wages, Inquiry 7. (See also pars. 52 and 57.)

Inquiry 10.—Products.

70. **Intermediate products not desired—Stocks in process.**—The product of any establishment, from the census standpoint, is the finished product in its condition as prepared for sale. The value of intermediate products is not to be stated in reply to this inquiry (except in the case of those establishments which keep an accurate account of the value of stocks *in process of manufacture*, and which should report the increase in that value at the end of the year, as compared with the beginning of the year, as part of the value of the product of the year or deduct the decrease in such stocks from the product of the year). For instance, a cotton or woolen mill may spin the yarn from which its goods are made, and in this case the manufacture of the yarn would be only an intermediate process in the manufacture of cloth, and the value of the yarn produced during the year would not show separately in this report. Should part of the yarn spun be sold as yarn it becomes a true product.

71. **Production, not sales, desired.**—This inquiry calls for the value of the products *made* during the year, *not* the value of the sales. In many establishments the sales during the year may be considerably greater or considerably less than the product of the year. Where the manufacturer has not already records showing directly the product of the year, but has records showing the sales, the product for the year can be ascertained by adding to the sales the increase in the stock of finished goods (or stocks in process of manufacture) on hand at the end of the year as compared with the beginning of the year, or by deducting from the sales the decrease in such stocks. In other words, the sales account and the inventory together must be consulted in order to obtain the product of the year.

72. **Selling value desired.**—The value of the product desired is not the cost of manufacturing it, but the selling value or price at the factory, which includes the profit of the manufacturer.

73. **Exclusion of freight.**—The value desired is the value at the works. In many cases manufacturers sell all or part of their goods delivered at distant points and themselves pay the freight. In such cases the freight charges should, if possible, be deducted from the gross receipts from sales, and should not be reported under "Miscellaneous expenses."

74. **Deduction of discounts.**—Manufacturers frequently allow discounts from their gross selling prices. In such cases the net value obtained by deducting the discounts should be secured, if possible, and not the gross selling price.

75. **Selling departments.**—In some cases establishments turn over their product from the manufacturing department to a selling department at a given value. This factory value may be taken as the value of the product rather than the final amount realized by the selling department. In case the value reported represents the price finally received for the goods from the public, all selling expenses, advertising, salesmen's salaries and commissions, etc., should be included in Inquiry 7 or Inquiry 9, but in case the value given is the factory value at which the product is turned over to the selling department, such selling expenses should not be reported in this schedule.

76. **Exceptions in certain industries.**—The above general rules regarding the basis for the value of products are subject to some slight modification in a few industries, as indicated by the supplemental schedule for those industries, and before reporting the value of the products on the General Schedule the supplemental schedule, if one is used for the industry, should be consulted. In railroad repair shops, for instance, the work is not, as a rule, performed for others, nor is the product sold to others, but is for the use and benefit of the company itself. In such case the value of the product will represent simply the amount of expenditure for labor, materials, and miscellaneous expenses.

77. **Itemization of products.**—Space is left on the General Schedule for an enumeration of some of the important items comprising

the total product. The total product should in all cases be taken from bookkeeping records, but the records will not always show the value of the separate items of product. In such cases careful estimates for the principal items will be accepted, but the fact that they are estimates should be noted on the schedule, and the sum of the items must correspond to the total. It is not necessary to give a large number of minor items.

78. **Quantities.**—Quantities of output are not desired in the General Schedule except for the following industries, where they must be reported:

Manufacture of cigars (number of thousands).
Distilled spirits (number of gallons).
Malt liquors (number of barrels).

79. **Custom and job work.**—Under "All other products" report the amount received, or the charges, for custom work, repairing, and job work of all kinds, but not including contract work on materials furnished by other manufacturing establishments. (See par. 69.)

80. **Contract work for others.**—Many establishments do work for other establishments which furnish the whole or part of the materials used. The amount received for such contract work should always be shown upon a separate line under "Products" as "Contract work for other manufacturing establishments." Work done under contract, where the person for whom the work is done does not furnish any part of the material, should not be reported as "Contract work," but included in the regular product of the establishment.

81. **Expenses exceeding value of product.**—It will sometimes happen that the sum of the totals of Inquiries 7, 8, and 9 is in excess of the value of the product reported for Inquiry 10, indicating a loss. In such cases the agent should call the attention of the person furnishing the information to the fact, which may be due to error. If there is an error, it should be corrected. If, however, the figures are correct, the word "Correct" should be written under the total value of product and a memorandum made explaining the conditions which caused the loss.

Inquiry 11.—Power.

82. **Power owned.**—Where electric motors are not owned but are operated by electricity generated by the establishment, they should be included under "Power owned."

83. **Power rented.**—Subdivision (*b*) must show all power used by the establishment reporting which comes from some *outside* source.

Inquiry 12.—Fuel used.

84. **Cost of fuel.**—The total cost of all fuel used must be reported in answer to Inquiry 8. The cost includes amounts paid for power, heat, and light, and therefore may have no relation to the quantities reported under Inquiry 12. Separate totals must be given for each variety of fuel. The quantity of gas reported must include both natural and manufactured, the kind of gas used being stated.

85. **Coke and gas made by establishment.**—Some establishments make coke or gas and use it in its further manufacturing processes. In such cases report the total quantity of coal used, whether to make gas or coke or otherwise, and also the quantity of coke or gas used, but be sure to indicate that the coke or gas is made from the coal reported.

Inquiry 13.—Remarks.

86. **Explanation required.**—The instructions for several of the inquiries indicate the character of the information that should be given here. The space, however, is reserved, primarily, for the agent to explain unusual conditions connected with the inquiries or with the report as a whole. It is hoped that such explanation will obviate the necessity of the office corresponding with the establishment. Upon examining the schedule, after answers have been made to all the inquiries, the agents are liable to detect inconsistencies. If it is impossible to correct these inconsistencies, an explanation of them should be given. All of the schedules are edited before they are tabulated, and explanations of such inconsistencies are of great assistance to the editor.

These statements should be as brief and direct as possible. At the same time they should cover all pertinent facts, and, if necessary, use should be made of an additional blank sheet.

Do not use this space for correspondence or remarks not pertinent to the schedule.

Certificate.

87. **Signature required.**—Each report must be signed by the person responsible for the information furnished, and his official title and address must also be given. The agent or enumerator who secures the return should also sign this certificate. In all cases where a supplemental schedule accompanies the General Schedule the attention of the person signing the schedule must be called to both, as he certifies to the correctness of the statistics contained in both.

88. **Administrative and general office schedule.**—Some companies control a number of factories from a central office, and do not make a distribution of the expenses of such office among the different plants. In such cases the capital of the company as a whole, the employees at the central office, their salaries and wages, and the miscellaneous expenses, none of which are included in the reports for the plants, must be shown in a report prepared on Form KK55-324. The inquiries on this schedule correspond with the inquiries on the same subjects in the General Schedule for manufactures and for mines and quarries, and the instructions given for them should be followed. *Be careful not to duplicate any of these amounts in the reports for any of the separate plants.*

MINES AND QUARRIES.

89. **Instructions for census of manufactures apply.**—All of the foregoing instructions in regard to methods and practices to be followed by the field force in collecting statistics for manufactures apply, where pertinent, also to mines, quarries, petroleum and natural gas wells. The following instructions are additional to them and for the purpose of covering certain special features of the schedules for these latter industries.

90. **Unit of enumeration.**—The mine, quarry, or well is the unit of enumeration, corresponding with the establishment for manufactures, and the instructions, paragraphs 22 to 26, concerning separate reports for establishments must be followed.

91. **Mines and quarries to be reported.**—All classes of mines, quarries, and petroleum and gas wells that were in operation during any portion of the year (including those operated by penal, eleemosynary, and educational institutions), except as set forth in paragraph 92, must be reported, irrespective of their size or annual output.

92. **Operations to be omitted from the census—**

(*a*) Mines, quarries, or wells that were idle during the entire year.

(*b*) Small bituminous coal banks producing less than 1,000 tons annually.

(*c*) Individual placer gold miners and miners hunting for precious stones who employ no help.

(*d*) Prospectors.

(*e*) The digging of gravel for the construction of roads and for building operations.

(*f*) The digging or dredging of sand for building operations or other purposes.

(*g*) The production of mineral waters.

93. **Development work to be reported.**—Mines at which development work was carried on during the year must be reported, although no metal was produced. (See par. 102.)

94. **Mining and manufacturing.**—There are several branches of mining in which the mineral products do not reach the market in the crude condition, but are subjected to certain manufacturing processes at the mine or quarry, such as crushing, separating, washing, burning, calcining, or concentrating before being regarded as

marketable commodities. In such cases the general and supplemental mining schedules should cover the entire work of mining the crude material and its preparation for the market. There are some exceptions to this general rule to which special attention is called:

Clay mining and clay products.—The mining of clay and the manufacture of clay products are generally carried on in the same establishment; in such cases the entire operations should be reported on the general and supplemental schedules for manufactures. Only where the clay is mined and sold as such, and no manufacturing done, is a report to be made on the general and supplemental schedules for mines.

Limestone and lime.—The quarrying of limestone and the burning of the stone into lime are usually done by the same establishment, and the entire operations should be reported on the general and supplemental schedules for manufactures. Where limestone is quarried and sold as such (not burned into lime at the quarry), a report should be made on the general and supplemental schedules for mines.

Mineral pigments and mineral paints.—The production of natural mineral pigments and the cleaning, grinding, or roasting of the same should be reported on the general and supplemental schedules for mines. The manufactured mineral paints should be reported on the general and supplemental schedules for manufactures.

GENERAL SCHEDULE FOR MINES AND QUARRIES.

95. **General Schedule required for each mine and quarry.**—This schedule corresponds to the General Schedule for manufactures, and all mines and quarries and mills engaged in dressing and reducing metalliferous ores must be reported on it, except as noted in paragraphs 105, 114, and 115. The general instructions in paragraphs 28 to 87 must be followed as far as applicable in the preparation of reports on this schedule. Care should also be taken to follow the instructions contained in paragraph 27 concerning the separation of the values represented by the mining industry from those for other industries carried on in connection with the mine. Special attention is called to the following inquiries, which differ in important respects from those on the schedule for manufactures, and for which some additional information may be of assistance in preparing the reports.

Inquiry 5.—Wage Earners, Including Employees Paid by Ton, Car, Yard, or other Unit.

96. **Number by classes.**—The separation of the number of the different classes of employees and the number employed above and below ground can usually be made from the pay roll. It is desired to account for the total number of persons employed in or about the mine or quarry, and care must therefore be taken to report the number employed by contractors, lessees, etc. While this number can not be obtained from the operator's pay roll, he should be able to give an estimate, and this must be accepted unless the exact number can be obtained from the contractor. (See par. 98.)

Miners compensated by share of product may not appear on the regular pay roll as wage earners. Some record, however, is undoubtedly kept of such persons, and the number should be ascertained and included with the total number reported as "employed otherwise, as by contractors, etc." This number should of course include the persons employed by the block lessees, leasers, etc. (See par. 99.)

Inquiry should also be made as to whether any women are employed in and about the mine or quarry, and the number must be given in answer to the inquiry concerning them.

Inquiry 7.—Salary and Wage Payments.

97. **Net amount required.**—In addition to the instructions contained in paragraphs 55 to 59 for the answer to this inquiry, attention is called to the fact that the net amount paid in wages must be reported. In many branches of the mining industry the mine worker is required to furnish his own explosives, lamp oil, etc. Very often the supplies are procured for him by the operator and the cost is charged to him and deducted from his wages. If the pay roll shows the gross wages, the amount charged for supplies, and the net balance paid, the net amount only should be reported. If the pay roll shows only net wages paid after subtracting the cost of supplies, report the amount so stated. If the pay roll shows only gross wages paid, a separate account being kept by the company's store with each employee of explosives and other supplies sold to miners, the amount so charged should be subtracted from the total gross wages in order to obtain the net wages that is desired.

If the charges for explosives and other supplies appear neither on the pay roll nor elsewhere as a separate account, an estimate of the amount should be obtained from the operator and deducted from gross wages.

The amount charged to miners for explosives, lamp oil, and other supplies and deducted from gross wages in computing the net wages must be separately stated on the line reserved for it next under the total.

98. **Contract miners.**—A contract miner is one who undertakes to mine coal or other mining products at a stipulated price per ton, car, or yard, with the help of men engaged and paid by him, either by the same unit or by the day or week, out of the total amount received by him.

99. **Miners and others compensated by share of product.**—In the Kansas-Missouri lead and zinc mines and in the Colorado silver-lead mines, and possibly in some other cases, there are, in addition to regular wage earners employed by the day or by the task, special classes of labor designated as "leasers," "block lessees," "tributers," etc. Technically, they "lease" from the operator a block in the mine and "pay" a stipulated royalty; in reality all the ore hoisted is usually delivered to the operator and marketed by him or shipped in his name to the sampler or smelter, and the operator retains his royalty or authorizes the ore buyer to withhold the same, and pays to the "lessees" their share of the proceeds. In all cases these workers furnish their own mine supplies. While resembling in form an ordinary mining lease, this is in substance a contract of employment on a share of the product.

This class of miners is seldom, if ever, included in the general pay roll. A separate account will, as a rule, be kept with them, from which their compensation must be ascertained. In some cases the books of a mine owner will show nothing but the royalty obtained by him as an item of income; in that case the compensation of the miners will have to be computed from the rate of royalty received by the operator. For example, if the operating company has credited its income account with $10,000 as royalties, and the rate of royalty received by it is reported in answer to the last question of Inquiry 7 as 20 per cent of the product, then the share received by the mine workers was 80 per cent, i. e., $40,000; in that case $40,000 should be reported in answer to this inquiry as the amount paid to miners compensated by share of product.

Inquiry 9.—Miscellaneous Expenses.

100. **Rent and royalties.**—In addition to the instructions in paragraph 66, attention is called to the fact that the amount paid for rent includes the amount paid for royalties. "Rent" is a fixed amount paid monthly or annually for the use of land, plant, tunnel, and other property. "Royalty" is a stipulated share of the product of the mine usually paid in lieu of rent.

101. **Contract work not included in answer to Inquiry 7.**—The work referred to here is of a more or less casual nature, for example, tunneling, shaft sinking, boring test holes, etc. It is quite distinct from mining proper done by contract miners, which is incident to the regular operation of the mine, and the expense of which must be included in answer to Inquiry 7—Salary and wage payments.

Inquiry 10.—Development Work.

102. **Development work.**—The extension and improvement of the mine usually goes on with the regular mining; sometimes it is not easy to draw the line between development work and mining; for example, where ore is extracted from the ground incidentally to sinking a shaft or boring a tunnel. As a rule, however, a portion of the expenses will be charged on the books to development, the balance representing the expense of operation.

In answer to this inquiry the total amount should be reported which was charged during the year to development.

SUPPLEMENTAL SCHEDULES.

103. **Cooperation with Geological Survey.**—To avoid duplicate inquiries, the Geological Survey, which collects annual statistics of production, and the Bureau of the Census have made arrangements for the use by both offices of the data collected on the supplemental schedules. These supplemental schedules must accompany the General Schedule in the same manner as the supplemental schedules for manufactures accompany the General Schedule for those industries. The arrangement, however, differs from that for manufactures in that the General Schedule for mines and quarries contains no inquiries concerning products. This information is carried on the supplemental schedule, and therefore a supplemental schedule or schedules must accompany every general schedule.

104. **Application of supplemental schedules.**—The following supplemental schedules must be prepared for the minerals indicated by each. The schedule "Miscellaneous mining industries" must accompany the General Schedule for all minerals for which no specific supplemental schedule is provided.

As in the case of manufactures, it will be necessary in some cases to prepare more than one supplemental schedule for the mines and quarries reported on a single general schedule. Some of the supplemental schedules enumerate the by-products usually produced in connection with the principal product, with instructions to report the details of the by-products on the proper supplemental schedule. All of the by-products could not be provided for, and the agent must see that the statistics of production correspond to the data on the General Schedule.

LIST OF SUPPLEMENTAL SCHEDULES.

1. Anthracite coal.
2. Asphalt and bituminous rock.
3. Auriferous and argentiferous deep mines (gold, silver, copper, lead, and zinc).
4. Bituminous coal.
5. Bluestone.
6. Clay. (See par. 94.)
7. Copper smelters. (See par. 114.)
8. Copper refineries. (See par. 115.)
9. Granite.
10. Gypsum and gypsum products.
11. Iron mines.
12. Lake copper mines.
13. Lead smelters. (See par. 114.)
14. Lead refineries. (See par. 115.)
15. Limestone. (See par. 94.)
16. Manganese.
17. Manganiferous iron mines.
18. Marble.
19. Mica.
20. Millstones and chasers.
21. Miscellaneous mining industries.
22. Natural gas. (See par. 105.)
23. Nonargentiferous lead and zinc mines.
24. Petroleum. (See par. 105.)
25. Phosphate rock.
26. Placer and surface mines (gold, silver, and platinum).
27. Pyrite.
28. Quicksilver.
29. Rare metals.
30. Reduction mills.
31. Sandstone.
32. Slate.
33. Talc and soapstone.
34. Trap rock.
35. Zinc smelters. (See par. 114.)

The inquiries on the supplemental schedules are direct and, as a rule, require no explanation, but special attention is called to the following:

105. **Petroleum and natural gas.**—This special general schedule corresponds with the General Schedule for mines and quarries. The inquiries, however, have been worded so as to meet the conditions peculiar to the petroleum and natural gas industries, but they agree so closely with those in the General Schedule for mines and quarries that no special instructions are necessary. In every instance this schedule must be accompanied by the supplemental schedule for petroleum or natural gas. When both products are obtained from the same well or group of wells covered by the special General Schedule, reports must be made on both of the supplemental schedules.

106. **Manganiferous iron mines.**—This schedule applies to mines which produce ore used for its manganese and iron content only. If the ore contains silver in paying quantities, it is to be regarded as a silver ore and should be reported on the supplemental schedule for auriferous and argentiferous deep mines.

107. **Placer and surface mines.**—The gold product of placer mines is not fine gold. The ounces are crude ounces. But the fineness of the gold fluctuates within narrow limits, and the miner, as a rule, knows the average fineness of the gold from his mine. The mint value of an ounce of fine gold is $20.67; the value of a crude ounce varies with the fineness of the gold.

In dredging for gold a record is kept, as a rule, of the quantity of the sand handled. The quantity being determined by the capacity of the dredge, it can easily be calculated, even where no record is kept.

Under other methods of working a commercial company will keep a record of the quantity of material handled or of the average recovery of the gold per cubic yard. The average recovery can be used as a basis for estimating the quantity of material handled.

108. **Auriferous and argentiferous deep mines.**—This schedule applies to mines producing gold and silver (quartz) ore, silver-lead ore, precious-metal-bearing zinc ore, and manganiferous iron ore carrying silver in paying quantities, as well as to western copper mines (not including Lake Superior mines). Manganiferous iron ore used only for its manganese and iron content is to be reported on a supplemental schedule specially provided for the same. Separate schedules are also provided for the Lake Superior copper mines (see par. 113) and for the lead and zinc mines (see par. 112), whose product carries no precious metals in paying quantities.

109. **Auriferous and argentiferous deep mines, products.**—The value of the product of auriferous and argentiferous ore is determined in accordance with the well-established trade custom, in the following manner: The ore is sampled and assayed and the gross price per ton is determined in accordance with the assayed content. Gold, silver, copper, or lead, etc., are paid for at the market rate or refined metal; after the gross price per ton has thus been determined, a stipulated charge per ton is deducted for the treatment of the ore; sometimes a penalty is charged for certain impurities contained in the ore. The freight for carrying the ore from the mine to the works is paid by the buyer and likewise deducted from the gross value of the shipment. The net amount received by the mine operator for the product sold represents the value of the ore at the mine. Very frequently the ore has to be hauled from the mine to the railway station. The cost of haulage is borne by the mine operator and should also be deducted from the gross value of the ore, in case the same is not hauled by the operator's teams. The cost of freight and haulage per ton is usually uniform for each mine and can be accurately stated.

Sometimes the ore is sent to a custom mill in the neighborhood, to be treated on tolls; the milled bullion is returned to the mine operator and sold by him to the mint or to a neighboring bank. In that case the gross value of the bullion is the value of the product; the cost of treatment must then be reported separately.

Smelting ore, which can not be reduced to the metallic state at a mill, is sometimes sent first to a concentrating mill in the neighborhood, to be reduced in bulk, so as to save the cost of freight from the mine to the smelter; the cost of treatment at the concentrating mill should then be reported under Inquiry 4, and the deductions from the gross value of the concentrated product sold to the smelter should be reported under Inquiry 3.

110. **Reduction mills.**—This schedule relates to amalgamation, chlorination, cyaniding, and concentrating mills, whether operated in connection with auriferous and argentiferous deep mines, or independently as custom mills.

No report on this schedule is required for concentrating mills connected with nonargentiferous lead and zinc mines. But a report should be made on this schedule for every custom mill treating nonargentiferous lead and zinc ore.

For method of valuation of ore and concentrate, see paragraph 109.

111. **Auriferous and argentiferous mines combined with mills.**—In case a mine is combined with a mill, it is desirable to obtain a separate report for each on a general schedule and separate reports on the supplemental schedules for auriferous and argentiferous deep mines and for reduction mills. If only one set of books is kept for both the mine and the mill, one combined report may be made on the General Schedule, but separate reports must be made on the supplemental schedules for the mine and the reduction mill.

112. **Nonargentiferous lead and zinc mines.**—This supplemental schedule is to be used for lead and zinc mines of the Mississippi Valley. As a rule, the mine is combined with a concentrating mill of some sort; the schedule accordingly combines inquiries in relation to both mine and mill.

The smaller mines, which have no facilities for milling their ore, have the same treated at a custom mill in the neighborhood; Inquiry 1 is intended to cover such cases. On the other hand, a mill connected with a mine sometimes treats ore from another mine for a stipulated compensation per ton; such cases are covered by Inquiry 2.

Custom mills which do not belong to any mine, but operate exclusively on custom ore, should be reported on the supplemental schedule for reduction mills.

In the principal center of the lead and zinc mining industry the system of tenure of mineral land results in the splitting up of the mining operations among several parties: The mineral land may be owned by one company, the mine developed by another, the mill owned and operated by a third, and the ore mined by a fourth. Usually the product is sold by one party, which retains its share of the value produced (the "royalty") and pays over the balance to the others. In all these cases a full report must be obtained from each party, but care must be taken that each reports as its own product only the actual quantity of ore mined or treated by it.

113. **Lake copper mines.**—The crude product of the mine is locally called "rock." As a rule, every copper mine in the Lake Superior region is equipped with a mill for dressing the rock, i. e., for removing the worthless matter attached to the copper; dressed rock is locally called "mineral." The latter is then treated at a smelter where marketable "lake copper" is produced. If the copper contains silver in paying quantities, it is sent to an electrolytic refinery, where the silver is separated from the copper; the latter is then called "electrolytic copper." The larger mines are equipped with smelters where their product is treated. The smaller operators either sell their mineral to smelters or have it treated for their account at a custom smelter or refinery. If the mineral is sold, its value is determined in the same manner as that of auriferous and argentiferous ores (see par. 109); if it is treated at a custom smelter or refinery and the metallic product is marketed by the operator, the latter is credited with the full (gross) value of the metals produced. The cost of treatment at custom smelters and refineries (haulage, freight, charges for treatment, including selling expenses and commissions) is accounted for separately.

114. **Lead smelters; copper smelters; zinc smelters.**—A report for every smelter must be made on a general schedule for manufactures and on a supplemental schedule for smelters.

In case a smelter is operated in combination with a mine, separate reports are required for the mine and the smelter. If the mine and the smelter are operated jointly and only one set of books is kept covering both, a combined report may be made on the General Schedule for mines and quarries, but separate reports must be made on the supplemental schedules for the mine and the smelter. No items, however, need be reported twice; all inquiries relating to products must be answered fully on the supplemental schedule for the smelter; the supplemental schedule for the mine may be confined to such inquiries only as are not duplicated on the supplemental schedule for the smelter.

115. **Refineries.**—A report for every refinery must be made on a general schedule for manufactures and on a supplemental schedule for copper or lead refineries, as the case may be. Whenever a refinery is combined with a smelter, separate reports must be secured for each. In case only one set of books is kept covering both the smelter and the refinery, a combined report may be made on the General Schedule for manufactures, but separate supplemental schedules must be prepared for each. The inquiries in relation to products and stocks, however, may be omitted from the supplemental schedule for the smelter. (Copper smelters, Inquiries 5 and 7; Lead smelters, Inquiries 4 and 5.)

116. **Printed reports of mining companies.**—In all cases where an annual report of the establishment is printed, a copy of the latest report should be secured and forwarded with the schedules. Copies should also be returned of any other printed matter that will add to the information contained in the schedule.

EXTRACTS FROM AN ACT TO PROVIDE FOR THE THIRTEENTH AND SUBSEQUENT DECENNIAL CENSUSES.

Be it enacted, etc. That a census of the * * * manufactures and mines and quarries of the United States shall be taken by the Director of the Census in the year nineteen hundred and ten and every ten years thereafter. The census herein provided for shall include each state and territory on the mainland of the United States, the District of Columbia, and Alaska, Hawaii, and Porto Rico.

SEC. 8. That the Thirteenth Census shall be restricted to inquiries relating to * * * manufactures and to mines and quarries. * * *

The schedules of inquiries relating to manufactures and to mines and quarries shall include the name and location of each establishment; character of organization, whether individual, cooperative, or other form; character of business or kind of goods manufactured; amount of capital actually invested; number of proprietors, firm members, copartners, stockholders, and officers, and the amount of their salaries; number of employees and the amount of their wages; quantity and cost of materials used in manufactures; amount of miscellaneous expenses; quantity and value of products; time in operation during the census year; character and quantity of power used, and character and number of machines employed.

The census of manufactures and of mines and quarries shall relate to the year ending December thirty-first next preceding the enumeration of population and shall be confined to mines and quarries and manufacturing establishments which were in active operation during all or a portion of that year. The census of manufactures shall furthermore be confined to manufacturing establishments conducted under what is known as the factory system, exclusive of the so-called neighborhood household and hand industries.

The inquiry concerning manufactures shall cover the production of turpentine and rosin, and the report concerning this industry shall show, in addition to the other facts covered by the regular

schedule of manufactures, the quantity and quality of turpentine and rosin manufactured and marketed, the sources, methods, and extent of the industry.

Whenever he shall deem it expedient, the Director of the Census may charge the collection of these statistics upon special agents or upon detailed employees, to be employed without respect to locality.

The form and subdivision of inquiries necessary to secure the information under the foregoing topics shall be determined by the Director of the Census.

SEC. 22. That any supervisor, supervisor's clerk, enumerator, interpreter, special agent, or other employee, who, having taken and subscribed the oath of office required by this act, shall, without justifiable cause, neglect or refuse to perform the duties enjoined on him by this act shall be deemed guilty of a misdemeanor, and upon conviction thereof shall be fined not exceeding five hundred dollars; or if he shall, without the authority of the Director of the Census, publish or communicate any information coming into his possession by reason of his employment under the provisions of this act, or the act to provide for a permanent Census Office, or acts amendatory thereof or supplemental thereto, he shall be guilty of a misdemeanor and shall upon conviction thereof be fined not to exceed one thousand dollars, or be imprisoned not to exceed two years, or both so fined and imprisoned, in the discretion of the court; or if he shall willfully and knowingly swear to or affirm falsely he shall be deemed guilty of perjury, and upon conviction thereof shall be imprisoned not exceeding five years and be fined not exceeding two thousand dollars; or if he shall willfully and knowingly make a false certificate or a fictitious return he shall be guilty of a misdemeanor, and upon conviction of either of the last-named offenses he shall be fined not exceeding two thousand dollars and be imprisoned not exceeding five years; or if any person who is or has been an enumerator shall knowingly or willfully furnish or cause to be furnished, directly or indirectly, to the Director of the Census or to any supervisor of the census any false statement or false information with reference to any inquiry for which he was authorized and required to collect information he shall be guilty of a misdemeanor, and upon conviction thereof shall be fined not exceeding two thousand dollars and be imprisoned not exceeding five years.

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SEC. 24. And it shall be the duty of every owner, president, treasurer, secretary, director, or other officer or agent of any manufacturing establishment, mine, quarry, or other establishment of productive industry, whether conducted as a corporation, firm, limited liability company, or by private individuals, when requested by the Director of the Census or by any supervisor, enumerator, special agent, or other employee of the Census Office acting under the instructions of the said director, to answer completely and correctly to the best of his knowledge all questions on any census schedule applying to such establishment; and any owner, president, secretary, director, or other officer or agent of any manufacturing establishment, mine, quarry, or other establishment of productive industry, who under the conditions hereinbefore stated shall refuse or willfully neglect to answer any of these questions, or shall willfully give answers that are false, shall be guilty of a misdemeanor, and upon conviction thereof shall be fined not exceeding ten thousand dollars or imprisoned for a period not exceeding one year, or both so fined and imprisoned, at the discretion of the court. The provisions of this section shall also apply to the collection of the information required and authorized by the act entitled "An act to provide for a permanent Census Office," and by acts amendatory thereof or supplemental thereto.

SEC. 25. That the information furnished under the provisions of the next preceding section shall be used only for the statistical purposes for which it is supplied. No publication shall be made by the Census Office whereby the data furnished by any particular establishment can be identified, nor shall the Director of the Census permit anyone other than the sworn employees of the Census Office to examine the individual reports.

SEC. 26. That all fines and penalties imposed by this act may be enforced by indictment or information in any court of competent jurisdiction.

APPENDIX C.

INSTRUCTIONS FOR EDITING AND REVISING THE SCHEDULES FOR MINES, QUARRIES, AND WELLS.

The reports from the mines, quarries, petroleum and gas wells are prepared either by a representative of the establishment or by an agent of the Bureau of the Census in conformity with information furnished by such representative. As a rule, therefore, they should be accepted as showing the condition of the business for the census year of the establishment reporting. The bureau is not justified in making any changes in values or quantities that will affect the general results, except in cases of manifest error. The revision of the reports will be confined, therefore, to harmonizing the answers to the several questions and detecting and correcting errors due to misunderstanding the questions, to the insertion of wrong figures, or to the misstatement of facts.

It is important, in order that no point in the schedule be overlooked, that exact and uniform methods be followed in editing. The several questions in the schedule should be taken up in regular order, each being considered by itself and in connection with information given under questions that have more or less bearing upon it and with which it should be consistent. The instructions in the schedule and in the book of instructions to special agents must be studied and their application to each question fully understood. In addition to these the following rules and suggestions must be observed:

All changes must be made neatly and plainly in red ink. Make plain all indistinct figures. *If a correction is necessary in one or two figures of a number, rewrite all of the figures of the number.* Be careful to have all corrections in the proper spaces, to avoid confusion and error in tabulation.

Cents and fractions should in all cases be eliminated; follow the office rule of adding 1 if the fraction is more than one-half or dropping the fraction if less than one-half.

The totals given must be verified by the addition of the several items which should properly be included therein. If the totals are not entered they should be inserted in red ink after all corrections have been made in the items.

Each schedule should be first examined to see that the mining enterprise comes within the scope of the census investigation. (See pars. 91–93, "Instructions to Special Agents.")

The following are some of the principal points that should be considered in editing the answer to each inquiry:

GENERAL SCHEDULE.

INQUIRY 1.

The location of the mine, quarry, or well must be given in full, both on the general and on the supplemental schedule, and the description on both schedules must agree. A report may cover operations in more than one county; no segregation by counties is required. If one report is made for the operations of the mining company in more than one state, the schedule should be submitted to the expert special agent on mining.

Period covered by the report.—The report must cover all the operations during a full year of 12 months, namely, either the calendar year or the fiscal year of the establishment. If the mine was idle during a portion of the year, the period of idleness will be indicated by the number of days in operation reported under Inquiry 2 and by the answer to Inquiry 6.

If the answer to Inquiry 1 accounts for less than a full year and the answer to Inquiry 6 fails to account for a full year, it is possible that the mine changed hands during the year 1909; in all such cases the agent should be instructed to secure a report for the portion, if any, of the year 1909 the property was operated by the predecessor of the present owner.

Character of organization.—*A general partnership* is one in which every member has a voice in the management of the business.

A limited partnership is one in which, besides the general partners having a voice in the management of the business, there are special partners who merely have invested a limited amount of money in the business, but have no voice in its management, and are liable for the debts of the partnership only to the extent of their investment. A limited partnership is required by law to file, upon its organization, a certificate with the proper authority, in like manner as a corporation; usually the word "Limited" is added to the firm name. Whenever a limited partnership is reported the schedule should be carefully scrutinized, and in doubtful cases submitted to the expert special agent on mining.

A cooperative association, or society, is a partnership of a number of partners who contribute their manual labor, as well as their capital, to the common enterprise. It is usually governed like a corporation, by elective officers. Cooperative associations are an unusual form of business organization in the United States; it is therefore necessary to scrutinize very carefully every schedule where this form of organization is reported; in doubtful cases it should be submitted to the expert special agent on mining.

For the purpose of tabulation, the form of organization should be indicated on the left-hand margin of the schedule, opposite the answer, by one of the following words: Individual, Firm, Limited, Incorporated, Cooperative, or Other.

The number of proprietors and partnership members, or the number of stockholders, should be consistent with the character of organization.

If the number of proprietors regularly performing manual labor is reported, see that they are not included among the number of wage earners under Inquiries 5 and 6, and that the amount received by them is not included under wages in Inquiry 7. There are cases where no labor other than that of the proprietors is applied to the mine; in such cases no wage earners should be shown under Inquiries 5 and 6, and no payments to wage earners under Inquiry 7. The words "No hired labor" should be entered on the margin of such schedules to the right of the number of proprietors performing manual labor.

These rules do not apply to cooperative associations, which are similar in this respect to corporations: A member of a cooperative association who works for the association is like a stockholder of a corporation who is hired to work for the corporation.

INQUIRY 2.

Time in operation is variously shown on the title page, under Inquiry 1, "Period covered by this report," and under Inquiries 2 and 6. The answers to these three inquiries should be consistent.

INQUIRY 3.

Mineral and other lands.—If the answer to Inquiry 1 shows that the operator is not the owner of the mine, the answer under Inquiry 3 must show the number of acres leased.

INQUIRY 4.

Only incorporated companies should report salaried officers of corporations. Examine Inquiries 4, 5, and 6 for duplication.

INQUIRY 6.

The number of employees reported here as of the 15th day of each month generally can be accepted as the average number employed during the month, and the amount of labor shown should be consistent with the amount paid wage earners under Inquiry 7, and, in a general way, with the product shown on the supplemental schedule.

Note that the term "Employed otherwise, as by contractor, etc.," is intended to include also wage earners employed directly by the operator, whenever the compensation of such employees is based on a share of the product, as well as the wage earners employed by contractors. In the former case, the payment for the labor should be shown under Inquiry 7, on line "Miners and others compensated by a share of the product," and in the latter case as contract work under Inquiry 9. Thus, wherever there is shown some labor under this designation, there should be shown a payment under either of these items. No schedule need, however, be rejected for failure to report the number of wage earners "Employed otherwise, as by contractors, etc."

INQUIRY 7.

No salaries should be reported for salaried officers of corporations if the establishment is not incorporated.

This inquiry should be consistent with information reported under Inquiries 4, 5, and 6. If "Salaried officers of corporations," "Superintendents and managers," "Clerks, stenographers, and other salaried employees," are reported under Inquiry 4, their salaries should be reported on the respective line under Inquiry 7. If wage earners are shown under Inquiry 5 or 6 to have been "Employed directly by operator," their wages must be reported on the line reserved for "Wage earners, paid by unit of time, ton, car, foot, or yard."

Divide the total amount of wages reported under Inquiry 7 on the fourth line by the sum of the wage earners employed on the 15th of each month, as reported under Inquiry 6. This will give approximately the average monthly earnings per employee, which should be entered under Inquiry 7, on the right margin next to line four.

Contract miners and contract work.—No payments for contract work, where the production of the mineral is the subject of the contract, should be included under contract work (Inquiry 9), but should always be entered under Inquiry 7, line "Wage earners paid by unit of time, etc."

Under "Amount charged to miners, quarrymen, and stonecutters for explosives, lamp oil, and blacksmithing charges, etc.," do not include amounts charged at the company's store for supplies other than those connected with the actual mining operations. There should not be included under this inquiry any charges for groceries, clothing, etc. All amounts shown here should also be included in "Total cost of all materials (other than fuel) and supplies used during the year," shown in the first item of Inquiry 8.

Rate of royalty by operator.—Note that under Inquiry 7 only the rate of royalty is to be reported where the miners and other employees are to be compensated by a share of the product. The amount of this royalty is not to be shown on either the general or the supplemental schedule. The supplemental schedule of mines and quarries so operated should show the total amount and value of the product, just the same as if the miners were paid a specified wage, and Inquiry 7 of the general schedule, on line "Miners and others compensated by a share of the product" should show the total value of that part of the product which was the share of the miners as a payment by the operator for salaries and wages.

"Royalty," as used in this connection, should not be confused with "Rents and royalties" *paid by* the operator and shown under Inquiry 9.

INQUIRY 8.

The first item of this inquiry should include the cost of all materials except fuel.

Divide the cost of fuel and rent of power, reported under Inquiry 8, by the total number of horsepower, owned and rented, as reported under Inquiry 11. This will give the average cost of fuel and rent of power per horsepower, which should be entered on the right margin, next to line 2, under Inquiry 8.

INQUIRY 9.

If the mine or quarry, or any part of it, is reported as rented under Inquiry 1, the amount paid for rent or royalty must be shown, except where the operations consisted only, or mainly, in development work, which will appear from the supplemental schedule.

Ascertain total operating expenses by combining the expenses shown under Inquiries 7, 8, and 9, and enter this amount on the left-hand margin of the page opposite Inquiry 9, as "Total operating expenses." See that "Loss" is written on the right-hand corner of the schedule when operating expenses exceed the value of the product. If the schedule shows a loss without any explanation under "Remarks," it must be returned for verification. Do not pass any schedule as correct which shows a loss in the year's operation unless an explanation of the loss is given by the agent who made out the schedule. (See Instructions to special agents, par. 81).

INQUIRY 10.

Development work.—The total cost of all development work during the year must not exceed the total expenses under Inquiries 7, 8, and 9, except where it appears from the answer to Inquiry 1 that manual labor was performed by the proprietors. It not infrequently occurs, however, that where the operations of the mine are confined to development work only a portion of the expense is charged to the same, while such expenses as salaries, rent of offices, insurance, etc., are not charged to development on the books of the operator. In such cases the schedule need not be returned for correction by reason of this apparent loss.

CLASSIFICATION FOR TABULATION.

All schedules shall be divided into two classes, those showing production and those showing development work only.

The schedules showing production shall be further classified as follows:

Class A.—All schedules showing an excess of value of products over all expenditures, including expenses of operation and outlays for development work.

Class B.—All schedules showing expenditures greater than the value of products and no expenses for development work.

The Instructions to Special Agents (par. 81) require the word "Correct" to be written under the total value of the product, where the same falls short of the expenses, and a memorandum to be made explaining the conditions which caused the loss.

Class C.—All schedules showing an excess of expenditures over value of products, but stating that a part of the expenditure was for development work. No attempt need be made on account of the uncertainty of the expenditure for development work, to determine whether the strictly operating expenses exceeded the value of products or not.

In those mines where no hired labor was employed, or where a part of the manual labor was performed by the proprietors but hired labor was also employed, if the cost of development work reported under Inquiry 10 exceeds the value of the product, although the latter is in excess of the expenses reported under Inquiries 7, 8, and 9, the schedule should be classified as belonging to Class C.

SUPPLEMENTAL SCHEDULES.

COAL MINES.

Many coal-mining schedules are received showing an extremely low "Value of coal at mine," the total value frequently being less than the total expenses. Apparently, in such cases, the "Selling value at mine" has been underestimated. Special agents are instructed to obtain the "Total selling value of coal at mine" by the following method: They must ascertain from the operator's books the *total* amount received for coal shipped to market points and deduct from that amount the freight, haulage, and commission charges as shown on the books; to this must be added the amount received for coal disposed of locally; the total will represent the "Total selling value of coal at mine." This computation should be shown in the space reserved for "Remarks."

In Inquiry 1 of the anthracite-coal schedule, and in Inquiry 2 of the bituminous-coal schedule, the "Total selling value of coal at mine" should include the value of coal "Used at mine for steam and heat," when the operator's books include this item in the total value of the year's productions. If the operator's books do not include it, it should be omitted from the total selling value, and the words, "Not included in total selling value" should be written after the words (in Inquiry 1 or 2) "Used at mine for steam and heat."

Care should be exercised to make this item (Inquiry 1 or 2) consistent with Inquiry 8 of the general schedule. If the coal used at the mine is included in the total selling value, Inquiry 8 of the general schedule should include the value of it under "Cost of fuel and rent of power," but if not so included the value should not be given under Inquiry 8.

Anthracite coal: Inquiry 2.—The total quantity loaded at mines for shipment must agree with "Loaded at mines for shipment," under Inquiry 1.

Inquiry 5.—The total quantity shipped, reported under this inquiry, need not agree with the total quantity loaded for shipment, which is shown under Inquiries 1 and 2.

Bituminous coal: Inquiry 6.—The total quantity shipped, reported under this inquiry, need not agree with the total quantity loaded for shipment, which is shown under Inquiry 1.

IRON.

In addition to the classification previously given the iron mine schedules should be further classified, as follows:

I. Mines with blast furnaces adjoining.

II. Mines with blast furnaces at a distance.

III. Mines without blast furnaces. The division of blast furnaces into those adjoining and at a distance shall be determined in the following manner:

The iron mine reports shall be checked with the manufacturing reports for blast furnaces and in all cases where the same company owns both mines and blast furnaces the location of the furnace shall be noted on the supplemental sheet of the mine report and the distance between the mine and furnace be determined by consulting atlas.

If five miles or under they shall be classed "Blast furnace adjoining;" if over five miles, they shall be classed "Blast furnaces at a distance." Follow this plan except where it is stated either on the schedule or in the Iron and Steel Directory that the mines and furnaces are, for example, 10 miles distant but all *located* on property owned by the company. Consider these as blast furnaces adjoining.

PETROLEUM AND NATURAL GAS.

A special general schedule is provided for petroleum and natural gas wells, which is substantially similar to the general schedule for mines and quarries. Instructions for editing this schedule were as follows:

INQUIRY 1.

Compare the title page of the general schedule with the title page of the supplemental schedule "Name of operator." "If operator is not owner of wells, give name and address of owner," "State," "County," and "Post Office address of general office"—should agree.

INQUIRY 2.

Number of days in operation.—Where the number of days in operation under Inquiry 2 is given as 365, and the number of days per week as six, allow each entry to stand as reported.

INQUIRY 8.

Gas purchased.—The amount paid for gas purchased from other companies should be entered as an operating expense under "Cost of materials" on the general schedule.

The estimated value of gas produced at *petroleum wells* and used in operation of the oil plant should not be entered as an operating expense on the general schedule under "Cost of fuel and rent of power."

INQUIRY 9.

Taxes.—In case of wells operated by owners, the amount of taxes paid on the entire farm on which the well is drilled, is liable to be reported as operating expense. In such cases the amount of this tax should be cut out. In like manner the total area of the farm should not be entered as gas lands.

PETROLEUM, SUPPLEMENTAL SCHEDULE.

INQUIRY 1.

If a portion of the oil is placed to the credit of the landowner, its value must be included under "Rent and royalties," under Inquiry 9, on the general schedule; but the latter amount may, in addition thereto, include a flat rental paid for the lease. It sometimes occurs that the entire product is credited to the operator and a cash rental is paid by the latter to the owner; in that case the rental will be shown only on the general schedule, under "Miscellaneous expenses."

Fuel.—If gas was sold in addition to petroleum, a supplemental schedule for natural gas must accompany the report.

No attention need be paid to "Total initial production of oil, etc."

Before passing a schedule as correct, compare the total product for the year ("Total deliveries" plus "Crude oil held in tankage December 31, 1909," minus "Crude oil held in tankage January 1, 1909,") with the total operating expenses (general schedule, the sum of Inquiries 7, 8, and 9.) The product should be greater than the expenses unless the supplemental shows that new wells were drilled during the year.

NATURAL GAS, SUPPLEMENTAL SCHEDULE.

Gas wells operated by owners.—Gas wells with small production, which is used by the owner of the well and possibly one or two neighbors, may be operated without any hired labor and very little labor by the proprietor. These schedules can be accepted as correct without showing either hired labor or without the proprietor regularly performing manual labor in connection with the well.

INQUIRY 1.

To be reported in M cubic feet.—Note that the schedule calls for the report to be made in M cubic feet. Ascertain from the value of the gas and other items which have a bearing on the same whether or not this has been done, and if not, reduce the quantity to M cubic feet.

(*a*) The total quantity of gas produced, together with the total quantity purchased, must be equal to the total quantity supplied for consumption.

(*b*) The total quantity supplied must be equal to the sum of the quantities supplied within the state and in other states.

(*c*) The number of consumers and the total quantity sold to other gas producers or distributing companies must agree with the number of consumers and the total quantity of gas supplied for consumption in 1909 to other gas producers or distributing companies.

INQUIRY 3.

Oil and gas land controlled by operator.—In answer to question "Number of acres held in fee," should be reported the number of acres of oil land or gas land or combined oil and gas land owned by the operator; for held "under lease" should be reported all such land which is leased by the operator; for "gas rights" and "oil rights" should be reported the number of acres of oil or gas lands upon which the operator has a right to drill for oil or gas but does not control the land itself.

Amounts reported for these last two items should always be in addition to that held "in fee" or "under lease," and never be a duplication of them.

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Where both oil and gas rights are owned on the same acreage, the acreage should be reported but once and it should be treated as combined oil and gas rights.

DUPLICATIONS.

Where the same establishment produces both oil and gas from the same well or group of wells, the report should consist of one general schedule and two supplemental schedules—one for petroleum and one for gas.

Editors should examine such reports carefully to detect the following duplications which are likely to occur:

(1) On the petroleum supplemental, under inquiries "Gas produced and used in operation of the plant," and "Gas produced and sold in 1909," there may be reported the same gas as is shown on the supplemental schedule for gas. In like manner on the gas supplemental schedule under inquiry "Petroleum produced at your wells and sold in 1909," there may be reported the same petroleum that is reported on the petroleum supplemental.

(2) The number of wells producing both oil and gas are liable to be reported on both the supplementals for petroleum and gas.

(3) The number of acres of oil and gas lands controlled by the operator may also be reported on both supplemental schedules.

In case of duplication as mentioned in (1), cut out the gas reported on the petroleum supplemental schedule and the petroleum reported on the gas supplemental.

Where the number of wells, as mentioned in (2), or the area of the oil land as mentioned in (3) are duplicated, cut out the number of wells and the acres of land on the *gas* supplemental.