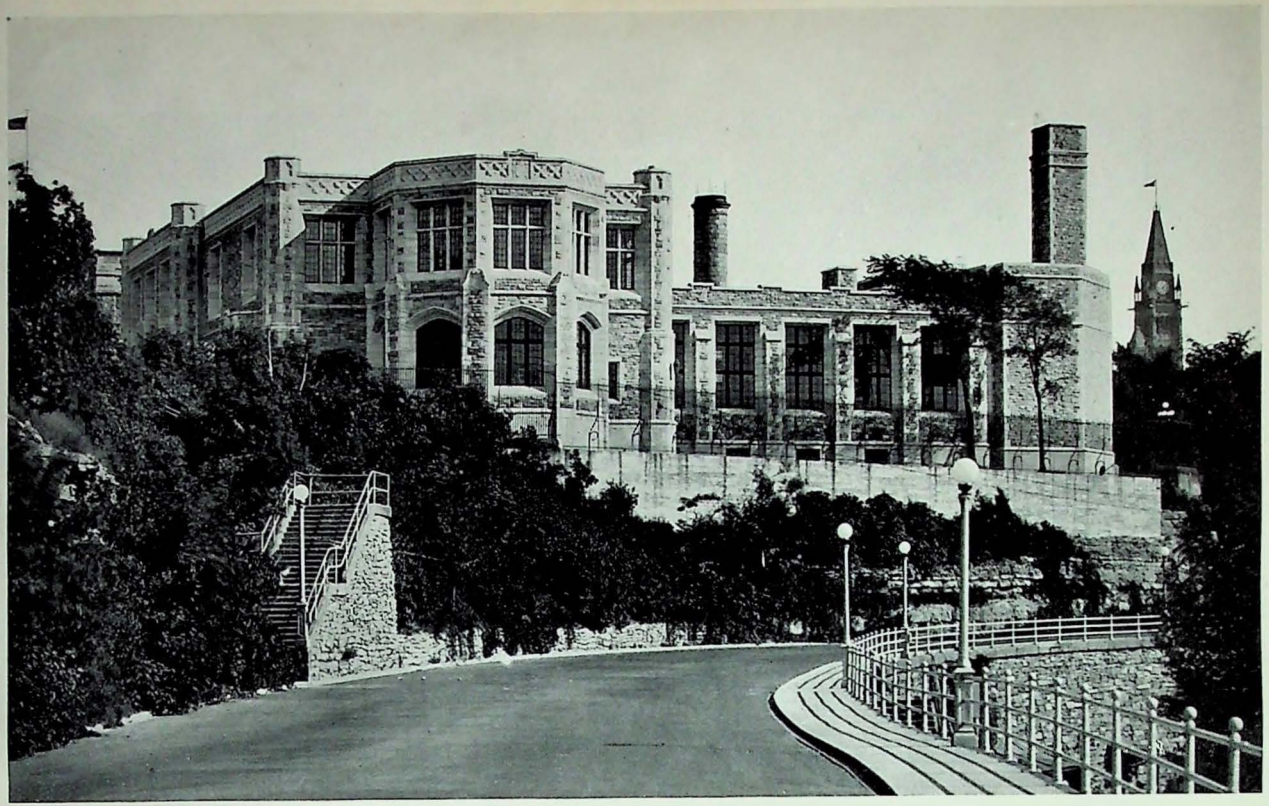


View of Refinery from Lady Grey Drive.

CANADA

DEPARTMENT OF FINANCE

REPORT

of the

MASTER OF THE ROYAL CANADIAN MINT

For the Calendar Year
1936.

Published by Authority of the HON. C. A. DUNNING,
MINISTER OF FINANCE.

OTTAWA
J. O. PATENAUDE, I.S.O.
PRINTER TO THE KING'S MOST EXCELLENT MAJESTY
1937

39912—2

ROYAL CANADIAN MINT, OTTAWA

24th April, 1937.

The Honourable
The Minister of Finance,
Ottawa, Ontario.

SIR,

I have the honour to submit the following report on the operations of the Royal Canadian Mint during the calendar year 1936.

COINAGE.

The issues of coin, as detailed below, exceeded those of the previous year by $228,880, the number of silver dollars called for showing the only decrease.

Denomination	Coin Issued in	
	1935	1936
SILVER COIN—		
1 dollar	$428,120	$306,100
50 cents	Nil	19,300
25 cents	134,400	242,000
10 cents	38,500	241,800
NICKEL COIN—		
5 cents	194,000	202,600
BRONZE COIN—		
1 cent	75,100	87,200
Totals	$870,120	$1,099,000

From information furnished by the Bank of Canada in the early part of the year as to the surplus held by several of the chartered banks, no requisitions for silver coin, except dollars, were expected, but after August the situation changed rapidly, and it was found barely possible to fill the heavy demands for all denominations without resorting to overtime work.

Much of the surplus held by the banks was silver coin of the old (925) standard and large quantities of this were included in the withdrawals from circulation which amounted to $774,295, the year's transactions thus resulting in an apparent net increase of $34,905 to the silver circulation. In addition mutilated nickel coin of the nominal value of $987 and bronze coin, chiefly the large cents, valued at $1,253 were withdrawn.

COIN DESIGNS.

The inscription on the obverse of the Canadian silver dollar, first issued in May, 1935, bore a reference to the twenty-fifth anniversary of the Accession of His late Majesty, King George V, celebrated in that month. A new obverse design for dollars issued after 1935 was authorized by a Proclamation published in *The Canada Gazette* of the 1st February, 1936, the inscription being the same as on other Canadian coins, the dies used being prepared from the original master die supplied by the Royal Mint in 1911 and now used for the first time.

39912—2½

Immediately after the death of His late Majesty King George the Fifth I submitted to the Government certain proposals in regard to obtaining new designs for the reverses of all Canadian subsidiary coins except the dollar, drawing attention to much adverse criticism of the present series and pointing out that the issue of coins with the effigy of the new Sovereign was a fitting opportunity for making a change. Approval was given to the formation of an informal committee, consisting of Dr. W. C. Clark, Deputy Minister of Finance, the late Sir Arthur Doughty, Dr. Gustave Lanctot, Chief French Archivist, Dr. Victor Morin, President of the Antiquarian and Numismatic Society of Montreal, Mr. Eric Brown, Director of the National Art Gallery of Canada, Mr. Gerald Larkin, and Sir Wyly Grier, President of the Royal Canadian Academy of Arts, with myself as chairman, to advise the Minister in connection with the new designs. Mr. Larkin was unable to act, but the other members met and drew up a memorandum setting out the conditions of a proposed competition, and suggesting a number of subjects for the consideration of artists, who were left free at the same time to choose any other subjects which might appeal to them individually. In response to the invitations sent out seventy-six drawings and one plaster model were received from twelve Canadian artists, and from these a selection was made by the committee for consideration of the Government but, none being found acceptable, it was then decided to commission six sculptors, who had already submitted drawings, to prepare plaster models, assigning to each the subjects to be treated. At the same time it was decided to enlist the co-operation of Sir Robert Johnson, Deputy Master and Comptroller of the Royal Mint, in obtaining sketch designs from one or two outstanding British artists specializing in coin design, and I was soon in a position to submit, for the consideration of the Government, two plaster casts by Mr. Emanuel Hahn, R.C.A. of Toronto, and three sketches by Mr. G. Kruger Gray, whose medal and coin designs are known throughout the Empire, with the recommendation that, with certain modifications to be incorporated by the respective artists in the finished models, they be accepted for the new Canadian series of coins. The approval of the Government to this recommendation having been received, immediate steps were taken to have the models delivered, at the earliest date consistent with the reasonable time requirements of the artists, to the Royal Mint, London, for preparation of the master dies and punches.

Meantime the design for the obverse of the coins, showing the King's Effigy and titles, had been approved by the Government, and the work of preparing the dies was well advanced, when the abdication of His late Majesty was announced, and authority was given to continue to use the present obverse bearing the Effigy of King George V, continuing to date the reverse "1936", until dies bearing the effigy of His present Majesty could be made available. The design and inscription of the new obverse have been approved, and all work on the new coins is proceeding satisfactorily. It is with great pleasure I acknowledge the assistance received from Sir Robert A. Johnson, K.C.V.O., K.B.E., who, at a time of great stress, has gone out of his way to place his own experiences and the resources of the Royal Mint, both in regard to designs and to production of the master dies, so freely at the disposal of the Government of Canada.

GOLD BULLION.

Reflecting the continuous increase in Canadian gold production there was again an increase in the amount of gold bullion deposited, 5,930 deposits weighing 4,431,744 ounces having been received at the Mint, and 266 deposits weighing 120,541 ounces received from the Dominion of Canada Assay Office, Vancouver, a total of 4,552,290 ounces, or 156 short tons. These deposits contained by assay 3,603,335 ounces fine gold and 520,928 ounces fine silver,

and the net amount paid to depositors by cheque, after deducting Mint and handling charges and postage due, was $120,877,935, which included $50,046,657 "premium", this "premium" being the difference between the statutory price of gold and the Mint purchase price as fixed weekly by the Department of Finance. The total deposits actually made at the Mint and Assay Office, distributed as to origin, were as follows:—

Source	Gross Wt.	Fine Gold	Fine Silver
	Ozs.	Ozs.	Ozs.
Canadian Mines	4,444,653	3,546,987	510,410
Jewellery, Scrap, etc.	87,222	36,468	9,864
Foreign Gold Coin	18,826	16,934	.....
Mutilated Gold Coin	5	5	.....
Totals	4,550,706	3,600,394	520,274

Eight thousand eight hundred and seventy-six trade bars (400-ounce ingots assaying over 995·0) containing 3,610,445 ounces fine gold, were delivered to the Bank of Canada, and 15,104 ounces fine gold were issued in other forms, including contents of sweep sold, making a total issue of 3,625,549 ounces fine. The issues to manufacturers, including gold sold for cash, and gold issued in part payment of deposits amounted to 12,531 ounces fine.

OPERATIVE DEPARTMENT.

The work of the Melting House and Coining Room is summarized in the following table:—

—	Bars Cast	Bars Rolled	Blanks Cut	Good Coin Produced
	Ozs.	Ozs.	Ozs.	Pieces
SILVER—				
1-dollar	716,224	541,349	276,550	306,100
50-cents	.....	.....	.....	38,550
25-cents	365,626	322,453	197,511	972,094
10-cents	393,690	288,980	183,153	2,460,871
Total Silver	1,475,540	1,152,782	657,214	.....
NICKEL—				
5-cents	.....	.....	.....	4,400,450
BRONZE—	Lbs.	Lbs.	Lbs.	
1-cent	96,358	97,650	67,872	8,768,769
Totals	Short Tons 98·77	Short Tons 88·35	Short Tons 56·47	16,946,834

The total number of pieces struck was 17,201,046, an increase above the figures for the previous year of over 4,000,000. The average number of pieces struck for each pair of dies was 76,790.

In addition to the work shown above, 731,000 ounces worn silver coin were melted into ingots, 132 ounces gold proof plate and 1,865 ounces silver were rolled, and 60,689 lead discs were produced from lead bars for the Assay Office.

The total number of matrices, punches and dies made for coinage purposes was 513. Two signature dies in steel were engraved for the Department of Pensions and National Health, and four for the Department of National Revenue, these being for use on cheque-signing machines. A considerable amount of work was also done on the preparation of signature dies engraved on blocks of a special pattern for use in printing the new notes to be issued by the Bank of Canada, and 160 of these have since the close of the year been completed and delivered to the Bank.

One "Flavelle" medal in gold 600 fine, and one "J. B. Tyrell" medal in fine gold were struck for the Royal Society of Canada, and two "International Mathematical Congress" medals in gold 583·1 fine were struck for presentation at the Oslo meeting, all these being engraved with the names of the recipient. The "Mathematical" medal was endowed by funds made available after the International Congress which met in Toronto in 1924, and was designed by Dr. R. Tait McKenzie, the first awards being made in 1936. Thirty-nine Long Service and Good Conduct Medals, mounted and engraved with the recipients' names, were issued to the Commissioner of the Royal Canadian Mounted Police.

Besides maintaining machinery and electrical and heating equipment in the usual high state of efficiency, the staff of the Mechanics' Shop were busily engaged throughout the year on the work of installation in the new Refinery of equipment, both old plant from the Refinery now dismantled, and additional plant designed for a larger and more modern building.

For some years trouble has been experienced with feed water supplied to the boilers, and this now appears to have been satisfactorily overcome by the installation of "scale buoys", sixteen of which, of 200 c.c. capacity each, revolve at the rate of 12 r.p.m. in a galvanized steel tank, 24" x 36" x 42", equipped with bronze paddles. The feed water passes through this tank on its way to the boilers, of which there are three of 75 h.p. each, and these on recent examination showed no sign of scale or corrosion.

ASSAY OFFICE.

The Chief Chemist and Assayer reports as follows:—

The number of assays made from 1st January to the 31st December, 1936, was as follows:—

GOLD—		
Refinages	5,187	
Rough Gold	30,073	
Proofs	3,081	
Parting Proofs	835	
Parting Buttons	11,803	
Miscellaneous	890	
		51,869
SILVER—		
Standard Bars	2,163	
Proofs	622	
Pyx	407	
Fine Silver Bars	485	
Miscellaneous	1,513	
		5,190
MISCELLANEOUS—		
Mint Sweeps, Residues, etc.	236	
Marking Act	60	
Suspected Counterfeit Coins	18	
Commercial	140	
Other metal determinations	55	
		509
Total		57,568

Representative samples taken from 50,000 pounds of nickel five-cent blanks supplied to the Mint were examined for composition and hardness, and the blanks were found to comply in all respects with the specifications.

Two fine gold trial plates and one fine silver trial plate were made. In exchange for the fine gold contents in cornets, 34·95 ounces of gold trial plate were sent to Vancouver Assay Office and one ounce of gold trial plate and twelve ounces of silver trial plate were sold.

The mean finenesses of silver coinage struck in 1936 were as follows:—

Denomination	Standard Fineness	Mean Fineness
1 dollar	800·0	799·98
50 cents	800·0	799·50
25 cents	800·0	799·77
10 cents	800·0	799·83

A quantity of gold plated pen nibs, which on examination were found not to comply with the Marking Act, were destroyed for the Department of Trade and Commerce.

An extensive examination of exhibits in connection with counterfeit coinage in Alberta was made in the department for the Royal Canadian Mounted Police.

The dust collected in the Cottrell Precipitator in the new Refinery, recovered from the fumes from chlorination, etc., carries high values and owing to its hygroscopic nature it is difficult to obtain representative samples. Experiments are being conducted on a process for extracting most of the gold contents before selling to smelters, which is the usual procedure in disposing of Mint sweeps, etc. These experiments, while not concluded, are sufficiently advanced to show that at least 90 per cent of the gold can be recovered and a by-product containing most of the tellurium can be obtained at a small cost. The resultant sweep, about 55 per cent by weight, containing practically all the silver, lead and little gold could be sampled without any difficulty for sale.

In dismantling the old refinery, a considerable amount of material (sand blastings, bricks and mortar from flues, etc.) was obtained which on examination was found to contain values, but not sufficiently high in the aggregate to be economically sold. On the recommendation of this department, samples of these materials were sent to the Ore Dressing plant of the Bureau of Mines to determine the feasibility of concentrating them. Their report showed that, by a combination of blanket and flotation concentration, a concentrate can be obtained containing 85 per cent of the original values and reducing the bulk from 9 to 1, which would show a profit on sale.

A test is being made, over a period, by filtration of the fumes to determine the amount of silver and gold (if any) in the fumes after leaving the Cottrell Precipitator in the new Refinery. The official test showed practically 100 per cent recovery in gold and 99·96 per cent in silver.

REFINERY.

During the year the Refinery received 5,930 deposits from mines and sundry depositors having a gross weight of 4,431,744 ounces containing 3,509,892 ounces fine gold and 502,236 ounces fine silver, also 266 deposits from the Vancouver Assay Office with a gross weight of 120,541 ounces containing 93,438 ounces fine gold and 18,692 ounces fine silver.

Eight thousand, eight hundred and seventy-six fine gold ingots (trade bars) weighing 3,598,541 ounces with a mean assay of 996·9; granulated gold weighing 12,987 ounces with a mean assay of 999·8; 153,397·75 ounces silver bullion with a mean assay of 999·0 and 43·95 ounces granulated silver with a mean assay of 999·5 were delivered to the Mint Office. In order to obtain concordant assays, 33,248 ounces of rough gold were toughened and 200,772 ounces remelted.

Rough gold bullion weighing 3,614,710 ounces containing 2,668,033 ounces fine gold and 520,936 ounces fine silver were refined by the Miller Chlorine Process, and 425,741 ounces base metal was removed during the operation.

Deposits of refined gold weighing 922,334 ounces were poured directly into trade bars.

From crushed crucibles, firebrick and slags, 37·28 short tons sweep were obtained, and concentrates containing 864 ounces of fine gold and 492 ounces of fine silver were recovered. The sweep sold during the year contained, by assay, 2,272 ounces fine gold, and 87,500 ounces fine silver.

DOMINION OF CANADA ASSAY OFFICE, VANCOUVER, B.C.

Two thousand and ninety-nine deposits containing 90,565 ounces fine gold were received at the Dominion of Canada assay office, Vancouver, including 34,960 ounces from British Columbia, 49,128 ounces from Yukon Territory, 305 ounces from Alberta, and 6,172 jewellery and dental scrap. These deposits contained 18,037 ounces fine silver. The net amount paid to depositors during the year was $3,133,591, an increase of $650,775 over the previous year's figure. Two hundred and sixty-six ingots containing 93,461 ounces fine gold and 18,692 ounces fine silver were received at the Mint from that office; these ingots, resulting from the melting of individual deposits, showed on assay the usual close agreement with the values as originally determined by the Vancouver office. Mr. Alexander Kaye retired under the Superannuation Act on the 1st December after thirty years' service as Assayer, having throughout his long term of office discharged the responsible duties of his position to the complete satisfaction of the heads of the departments under whom he served. He was succeeded by Mr. V. R. Thirkell as Assayer, Grade 2, and two Assistant Assayers were added to the staff of the office.

GENERAL.

Officers of the Auditor General's Department conducted, in March, the stock-taking required by the Act establishing the Royal Canadian Mint.

Dr. R. W. Boyle and Dr. G. S. Whitby, of the National Research Council, and Mr. W. B. Timm of the Department of Mines, who were appointed Assay Commissioners, under the Currency Act, for the purpose of ascertaining that the coins struck during the year 1935 were coined in accordance with the provisions of the Act, met at the Mint in the first week of May, and found by their verdict that all the silver coins, there being no gold coins, in the Pyx were within the prescribed remedies of weight and fineness.

Two thousand, two hundred and ninety-two visitors, including parties of students, were shown over the works.

Appendix A shows the transactions in gold bullion since the opening on the 2nd January, 1908, of the Mint in Ottawa, and in Appendix B details are given of the issues of coin in Canada.

THE NEW REFINERY.

When the Ottawa Mint was established in 1908 as a Branch of the Royal Mint the annual output of gold in Canada was under 500,000 ounces fine, most of it mined in British Columbia and the Yukon, and finding its way to the United States Assay Office in Seattle. There was no indication then that the Dominion was to become for a time the second largest world producer, nor that the province of Ontario was to assume the commanding position in the gold-mining industry which it subsequently attained, and the plans of the Mint consequently provided for refining on a very small scale. During the World War the Dominion Government at the request of the British Government undertook to refine large quantities of South African gold destined for New York and brought here by routes more or less safe from the submarine menace, and to this end a Refinery, intended only as a temporary structure, was hastily erected in the Mint enclosure, and in the years 1916–1918 over 19,000,000 ounces gross were refined in this temporary structure on account of the Bank of England. By the time this special work was no longer required Canadian gold was beginning to come in in ever increasing quantity, and, as was the case with the Australian Branch Mints, the Ottawa Mint was recognized by the producing mines as the most convenient market for realization of their product, and thus gradually to its original function of coinage was added the work of refining Canadian gold, something not contemplated on its first establishment. As the Canadian gold deposited continued to increase, the inadequacy of the old refining plant became more and more apparent; prevention of loss of metal, efficient working, and proper supervision presented increasing difficulties, and frequent representations were made as to the need for a new building with modern equipment. In 1934 the Government approved of the erection of a new Refinery, and in the Estimates for 1935–36 an appropriation for this work was included.

Mr. H. Gordon Hughes, A.R.I.B.A., was appointed architect, and I am indebted to him for the following description of the new building, and for the basement and first floor plans reproduced in Plates II and III. A general view of the Refinery from the Lady Grey Drive is shown in Plate I (Frontispiece).

"The construction of the new Refinery of the Royal Canadian Mint, the general contract for the erection of which was let to Messrs. H. Dagenais, Ltd., of Ottawa, was started in March, 1935, and was completed by June, 1936. The site is triangular and adjacent to the main buildings of the Mint. It is bounded on the northwest by the cliff above Lady Grey Drive, on the south by the Mint buildings, and the front or northeast by Sussex street. The building is Gothic in character to harmonize with the existing buildings, the walls being of local Nepean Sandstone shoddy and the cut stone Quebec granite, following the materials used in the old part. The windows are steel casement centrally pivoted. The roof is tar and gravel, and all copper flashing is painted with a rubber base paint to protect it from chlorine fumes. The plan of the building is "L" shaped, determined by the shape and size of the site, and was designed as a wing of the main building and kept as a subsidiary of it. A bridge at the second floor forms a connecting passage between the two buildings, and the entrance door to the Refinery is below it.

"The planning of the various units of the building was determined by the travel of the gold, with the General Office (Plate IV) and Vault as the central point from which the ingots leave and return. The General Office is so located that it controls a view of the entrance of the building, and double glazed windows give a view of the Rough Gold Melting Room and the Sampling Room. The above rooms have sound insulated ceilings to absorb the noise of the furnaces. This insulation is obtained by 4 inches of rock wool held in place by perforated steel plates, approximately 40 holes per square inch.

"The Trucking Space is located beside the main entrance and connected to a freight elevator, which transports all bullion, barrels of sweep and stores between the different floors as required.

"The Chlorination Room is approximately 50' 0" x 80' 0" with the fume chamber and two banks of furnaces in the centre. Off this room is the Sweep Plant, three rooms one above the other. The sweep is carried to the second floor by elevator, processed and stored in the basement. Off these rooms again are the two Cottrell units, one above the other. The gases from the furnaces are carried to these units by means of ducts located in the basement. The main duct, into which the subsidiary ducts flow, is built of reinforced concrete, square on the outside and circular inside, lined with two layers of firebrick.

"The Silver Chloride Reduction Rooms are equipped with three sludge tanks. These tanks are made with a steel shell and lined with three ply of rubber and finished with acid resisting brick set in a sulphur compound and rubber expansion joints.

"The aggregate, both fine and coarse, for the concrete floor finish was of the hardest trap rock available, placed with a power float. The walls of the various melting rooms were lined with 8" x 12" glazed coloured wall tile. All doors are Hollow Metal and are equipped with latches and dead locks. Those through which gold and silver pass are 4' 0" wide to allow for trucking. Checker plates are set in the concrete floors where travel is exceptionally heavy and also in front of the furnaces to facilitate gold recovery.

"The men's locker room, showers, dining room and kitchen are in the basement. The switch-board rooms, compressor room and various storage rooms are also located here. The second floor of the building, along the Sussex street elevation, was allotted for a future electrolytic refining system, if and when required."

The Gold Melting Room (Plate V) measures 54 feet by 29 feet and has six furnaces, together with complete equipment for handling pots from fire to moulds and for recovery of values from slags. Separated from it by a glass partition is a room with electrically driven punches and other fittings where clips are removed from ingots and wrapped. The Chlorination Room (Plate VI) has down the centre a double bank containing in all 24 chlorination furnaces and 4 melting furnaces, with projecting hoods, communicating with the main flue system, to take care of all fumes. There are also four tilting furnaces (Plate VII), each with a capacity of 10,000 ounces, and space is provided in cabinets ranged on the end wall for 24 cylinders of chlorine. Two furnaces are installed in the Silver Melting Room, which has an area of 22 feet by 30 feet. The Chloride Reduction Room, 54 feet by 24 feet, has one tank 16' 6" by 9' 6" by 2', with two settling tanks (Plate VIII), in the basement, of the same area but 4 feet deep, and is also equipped with six small reduction tanks of Doulton chemical ware, and 30 jars for preliminary treatment with nascent chlorine.

The treatment of sweep, crushed pots, etc., is carried out, according to the nature of the material, in a Chilean mill with a 4' 6" a No. 3 Eureka-Ideal conical mill, and a 2' Hardinge ball mill, and the crushed material is passed through a conical rotary mixer of 4,000 pounds capacity. All the air from the grinding, mixing and sampling rooms is delivered to the electrical precipitator by a special ventilating system worked by an exhaust fan with a capacity of 3,000 cubic feet of air a minute, thus keeping these rooms entirely free from dust.

After careful consideration of various methods of treatment of the fumes from the several operations of melting and refining, it was decided to adopt the Cottrell system of electrical precipitation, and a contract was let to the Western Precipitation Company of Los Angeles, now operating in the Dominion as the

Precipitation Company of Canada, Limited, for the installation of a Cottrell Electrical Precipitator, in two units, with a rated capacity of 35,000 cubic feet of air a minute. Under its contract the company guarantees an extraction of not less than 98 per cent of all solid matter in the gases treated, and the tests made from time to time show that this efficiency is more than maintained even when the volume of gas passing through exceeds the nominal rating. No objectionable fumes are now discharged into the atmosphere, and the minute particles of metal formerly carried by these are now recovered.

All gases and fumes produced are delivered to the precipitator through the main duct (Plate IX) which is 75 feet long, the diameter tapering from 6 feet 6 inches to 6 feet. Connected to this main duct are five trunk lines operated by variable speed motors with tex rope drive, two leading from the hoods in the Chlorination Room, and one each from the flue in that room, from the Gold Melting Room and the Silver Melting Room. In consultation with Messrs. Sheldons, Limited, of Galt, Ontario, contractors for the complete ventilating system, motor capacity and duct areas have been calculated for the maximum load, while changes in the volume of air to be handled are taken care of by the variable speed of the motors. The air compressor (Plate X) together with the plant for supplying cooled drinking water throughout the building is situated in the basement.

As the various units became available, operations were gradually transferred from the old to the new building without any break in the routine work of melting and refining, an achievement possible only by the loyal co-operation of the whole staff. Nine months' actual experience has shown that in the new Refinery all operations, from the initial melting of the bullion received from the mines to the delivery of the finished product in the form of fine gold and fine silver, can be expeditiously and economically carried out, with a particularly high rate of efficiency in the recovery of values. It is only fitting that I should record here the valuable service rendered by Mr. H. E. Ewart, Superintendent of the Mint, to whose unremitting supervision of every detail, and resourcefulness in solving the many structural and mechanical problems being constantly presented, the satisfactory completion of the building and installation of the plant must be credited. With his name I would link those of Mr. A. L. Entwistle, Chief Chemist and Assayer, and Mr. P. W. Bond, Refinery Superintendent, whose knowledge and practical experience of metallurgical practice were invaluable factors in achieving the objective of a modern Refinery capable of meeting any possible Canadian demand for years to come.

I am, Sir,

Your obedient Servant,

J. H. CAMPBELL,
Master, Royal Canadian Mint.

39912—3½

APPENDIX A.

SUMMARY OF TRANSACTIONS IN GOLD BULLION of the Ottawa Branch of the Royal Mint from its opening on the 2nd January, 1908, to its dis-establishment on the 30th November, 1931, and of the Royal Canadian Mint from the 1st December, 1931, to the 31st December, 1936.

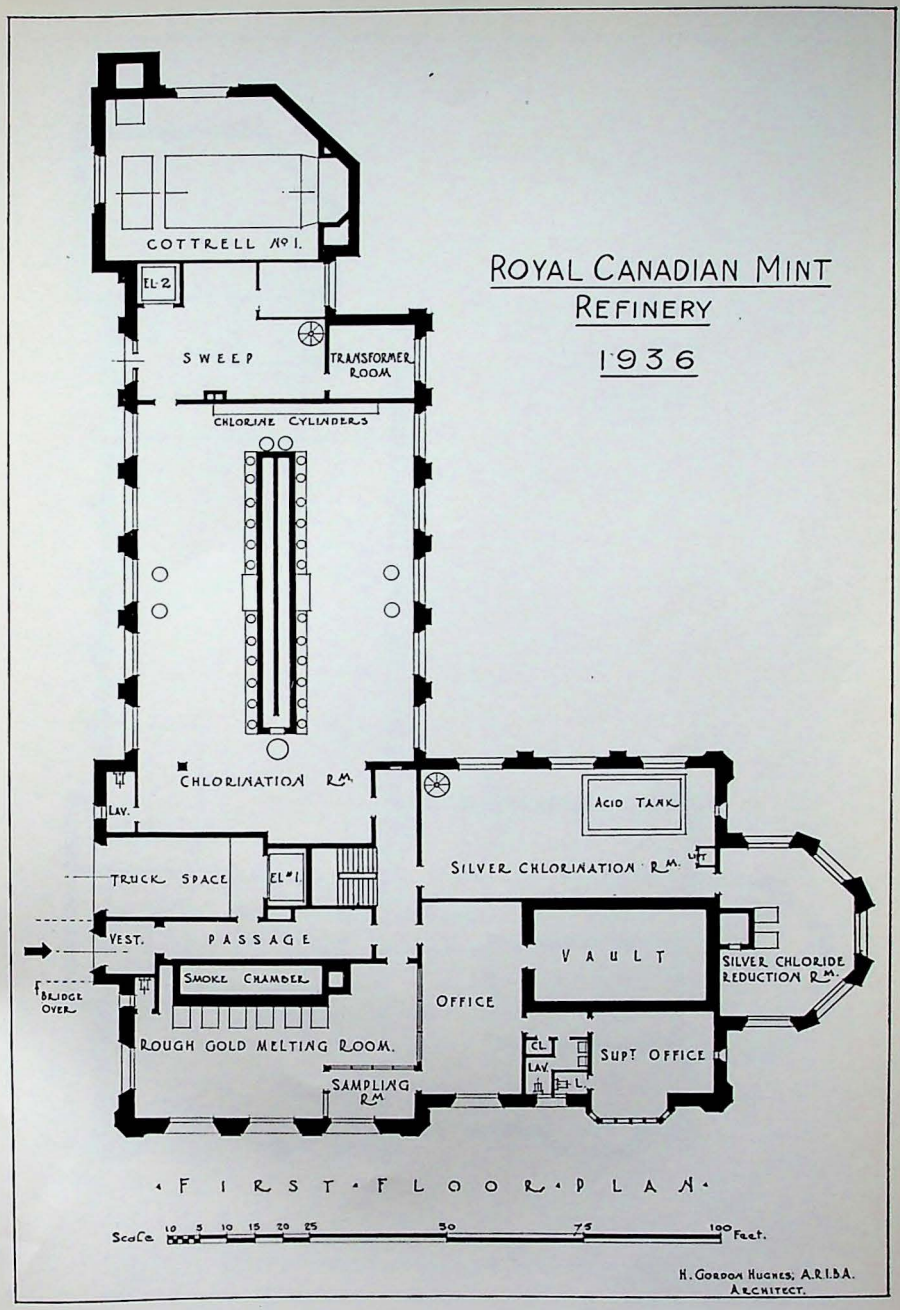
Year	Gold Received		Gold Issued		
	Gross Weight	Value (Statutory) Gold Only	Coin	Bullion	Value Coin and Bullion
	Czs.	$	$	Ozs. Fine	$
1908 to 30th Nov., 1931	34,321,068·750	591,419,217·02	7,923,878·73	28,141,076·806	589,651,570·24
1931—1st to 31st Dec.	299,973·100	5,100,968·08	.....	189,512·838	3,917,577·86
1932	3,520,276·570	58,491,549·39	.....	2,873,221·290	59,394,754·05
1933	3,331,905·174	53,819,014·01	.....	2,589,648·765	53,532,789·33
1934	3,888,848·540	62,201,080·02	.....	3,038,018·961	62,801,423·68
1935	3,996,131·927	65,297,776·55	.....	3,177,497·360	65,684,697·95
1936	4,552,289·960	74,487,536·98	.....	3,625,548·842	74,946,744·64
	53,910,494·021	910,817,142·05	7,923,878·73	43,634,524·862	909,929,557·75

APPENDIX B.

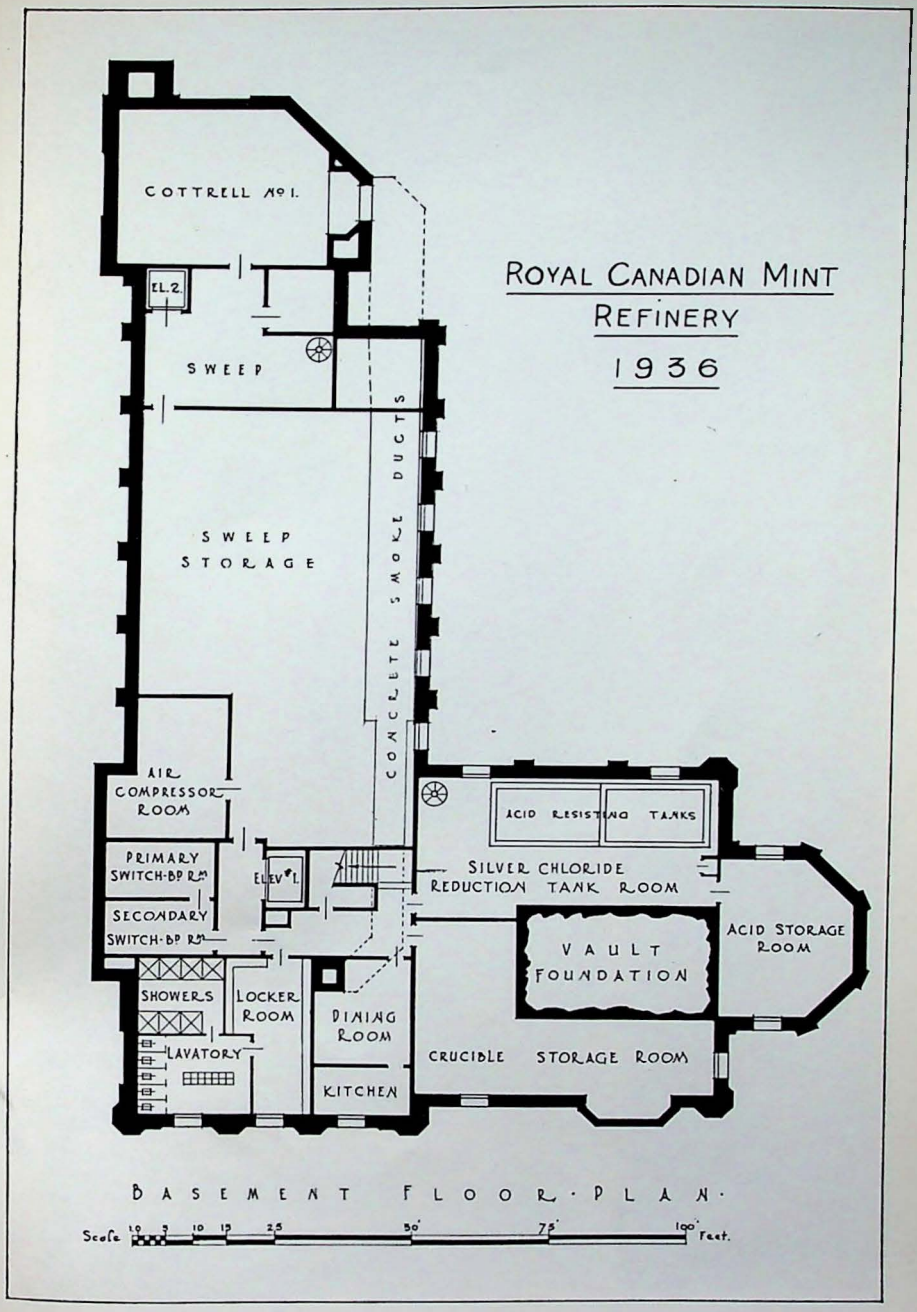
COIN ISSUED IN CANADA

		Silver							Nickel	Bronze	
		Dollar $	50c. $	25c. $	20c. $	10c. $	5c. $	Total Silver $	5c. $	1c. $	½c. $
1858 to 1907	New Brunswick, 1861, 2 and 4 — Struck in England	.....	.....	.....	60,000	25,000	10,000	95,000	.....	20,000	.....
	Nova Scotia, 1861, 2 and 4 — Struck in England	.....	.....	.....	.....	.....	.....	.....	.....	26,000	4,000
	Prince Edward Island, 1871 — Struck in England	.....	.....	.....	.....	.....	.....	.....	.....	10,000	.....
	Rest of Canada, 1858–1907 — Struck in England	.....	1,249,018	5,094,978	150,000	3,040,000	2,926,000	12,459,996	.....	803,315	1,114
	Totals	.....	1,249,018	5,094,978	210,000	3,065,000	2,936,000	12,554,996	.....	859,315	5,114

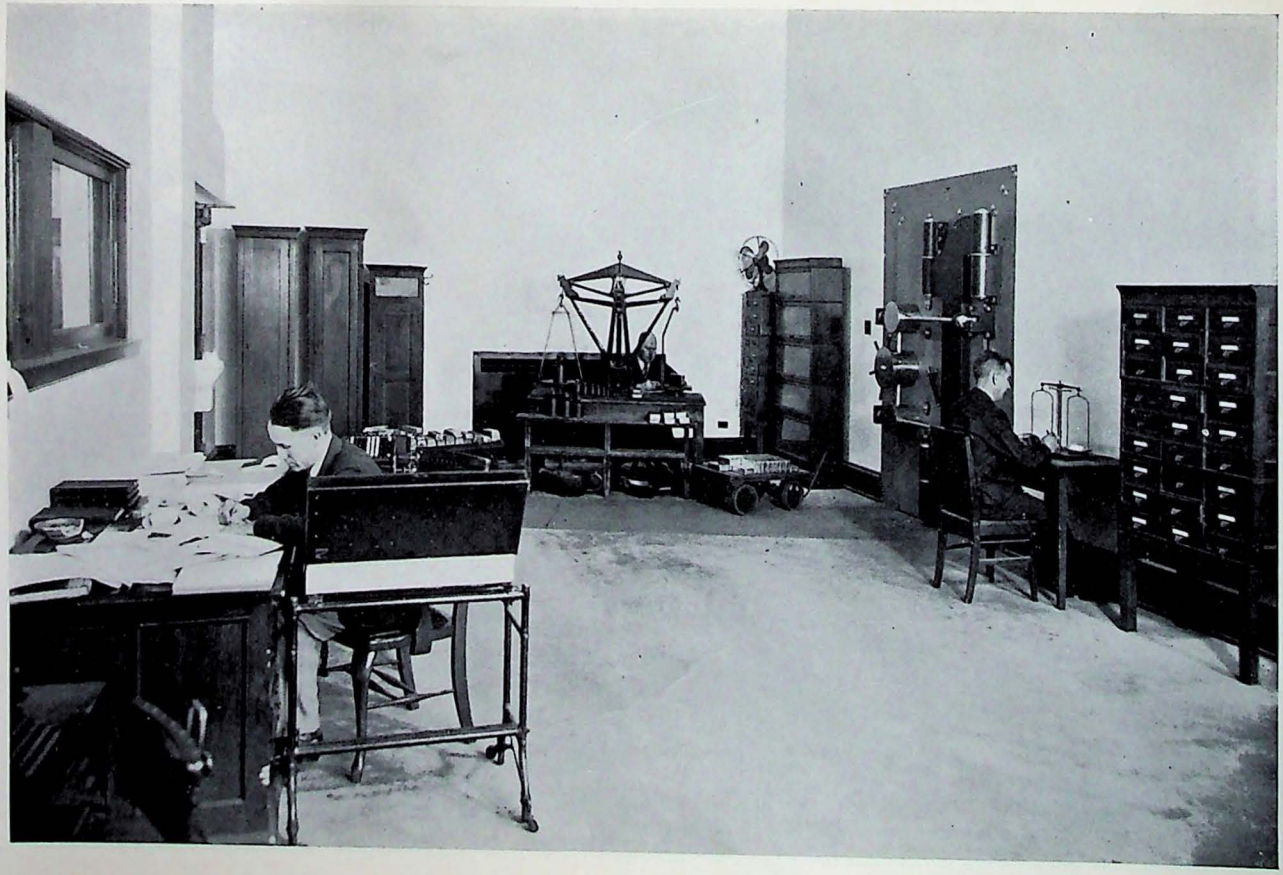
	Gold										
	Sovereigns £	$10 $	$5 $								
1908 to 1927	627,834	3,480,360	1,388,060	.....	2,539,000	7,686,925	.....	4,980,844	3,084,802	18,291,571	814,000	1,224,206	.....
1928	.....	.....	.....	.....	6,000	535,000	.....	326,000	.....	867,000	250,000	92,100	.....
1929	.....	.....	.....	.....	84,000	672,000	.....	325,000	.....	1,081,000	267,000	123,300	.....
1930	.....	.....	.....	.....	18,000	164,000	.....	144,000	.....	326,000	164,500	13,400	.....
1931	.....	.....	.....	.....	34,000	212,000	.....	229,400	.....	475,400	281,000	51,400	.....
1932	.....	.....	.....	.....	18,400	134,000	.....	134,600	.....	287,000	165,000	213,200	.....
1933	.....	.....	.....	.....	.....	97,000	.....	58,000	.....	155,000	125,000	120,800	.....
1934	.....	.....	.....	.....	19,200	105,100	.....	48,000	.....	172,300	193,000	69,900	.....
1935	.....	.....	.....	428,120	.....	134,400	.....	38,500	.....	601,020	194,000	75,100	.....
1936	.....	.....	.....	306,100	19,300	242,000	.....	241,800	.....	809,200	202,600	87,200	.....
	627,834	3,480,360	1,388,060	734,220	3,986,918	15,077,403	210,000	9,791,144	6,020,802	35,620,487	2,656,100	2,929,921	5,114



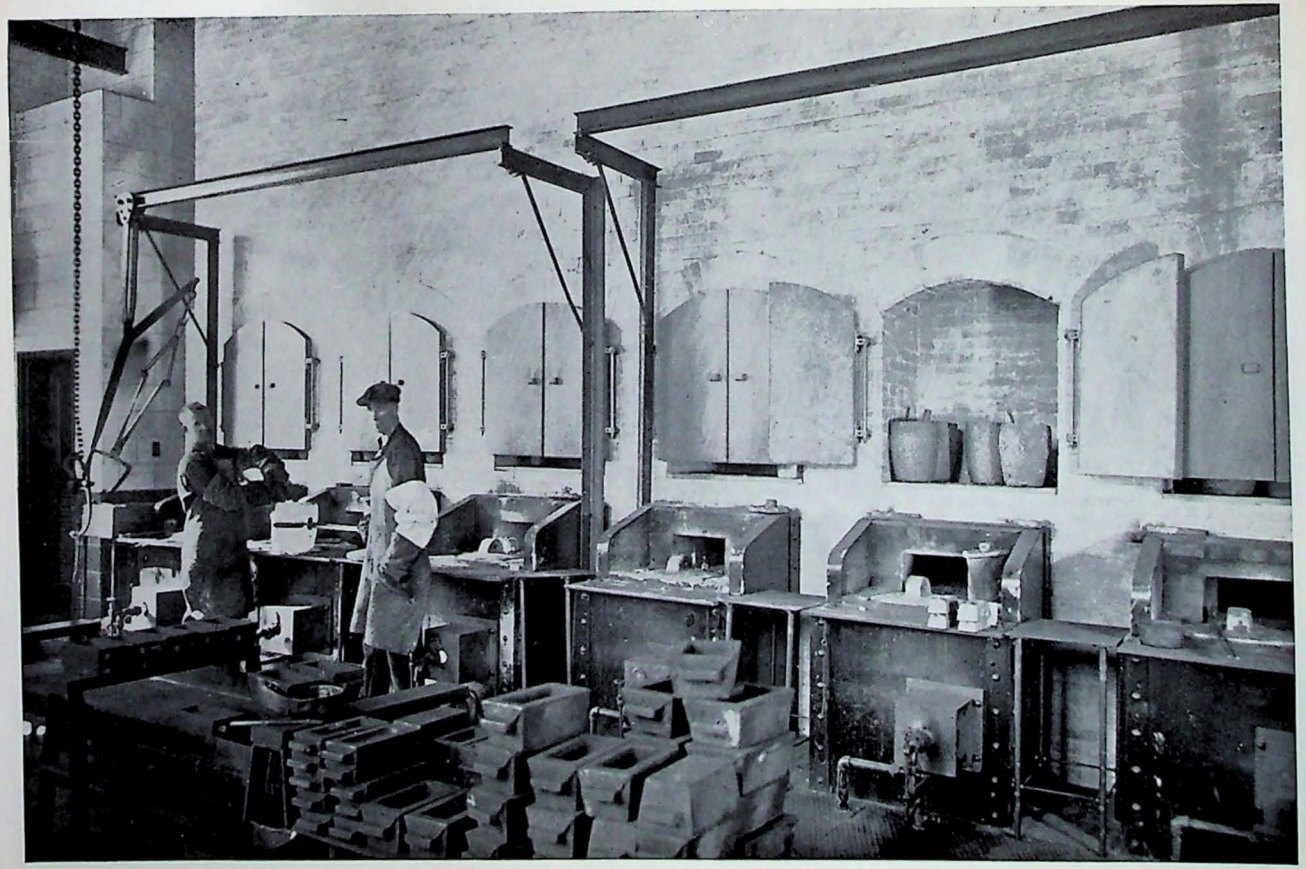
Main Floor Plan



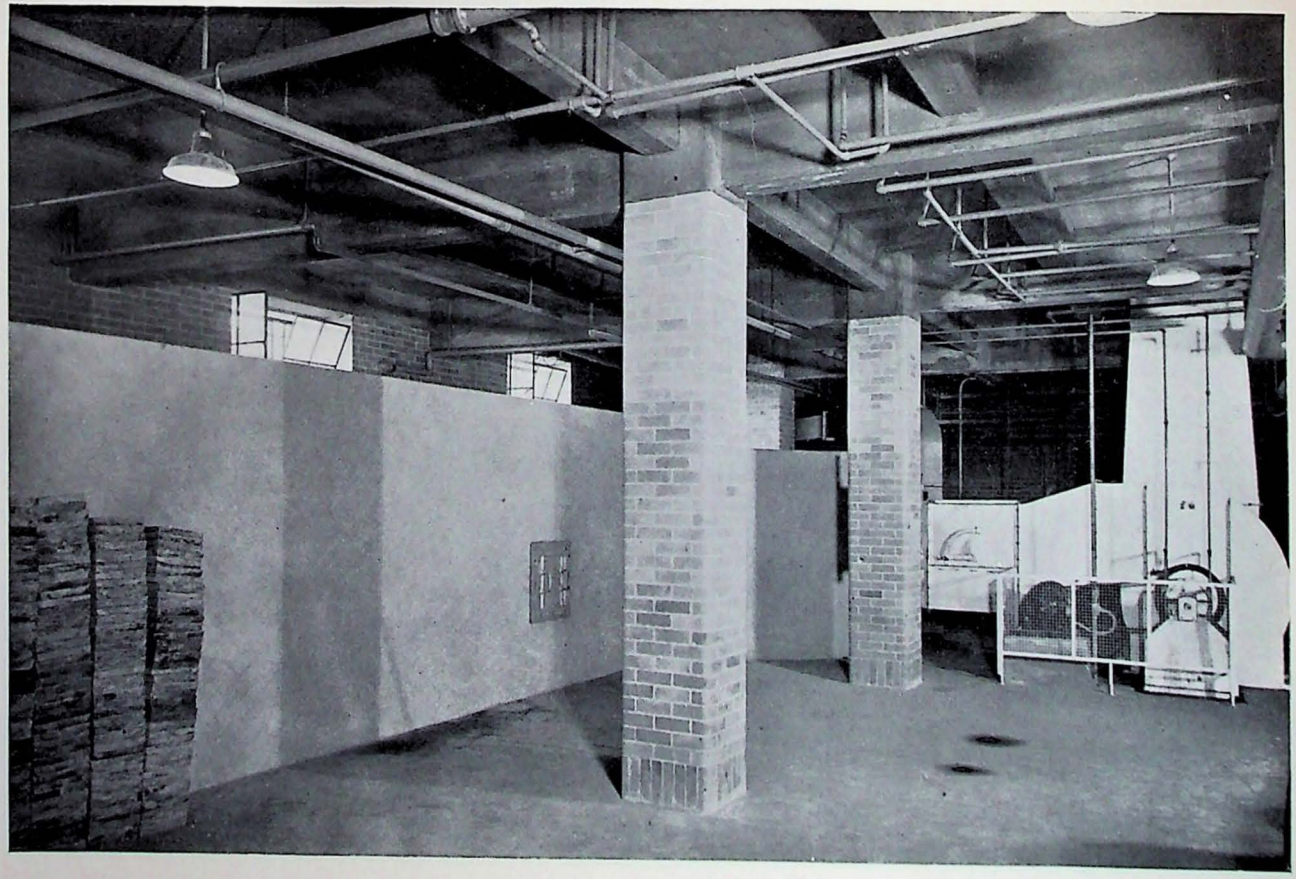
Basement Plan



Office

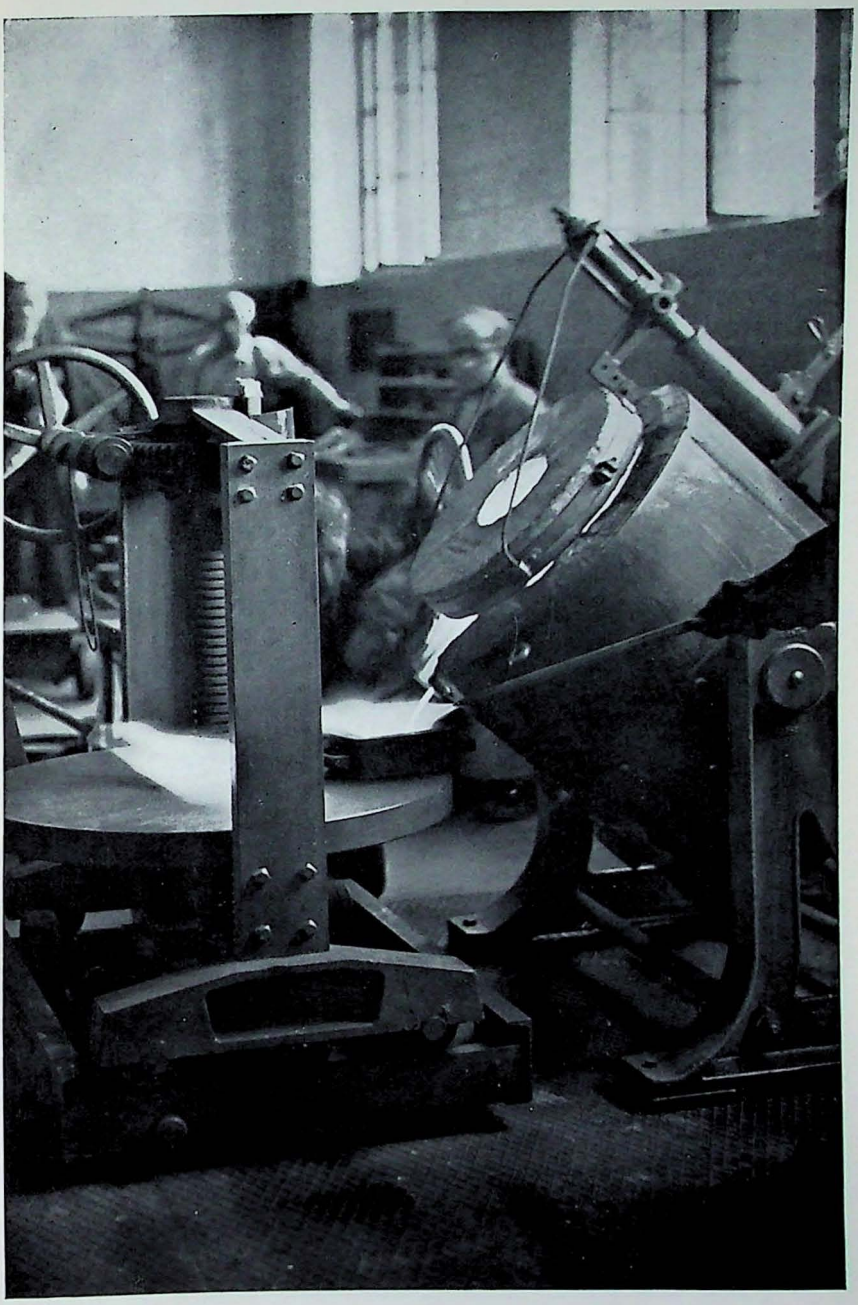


Gold Melting Room

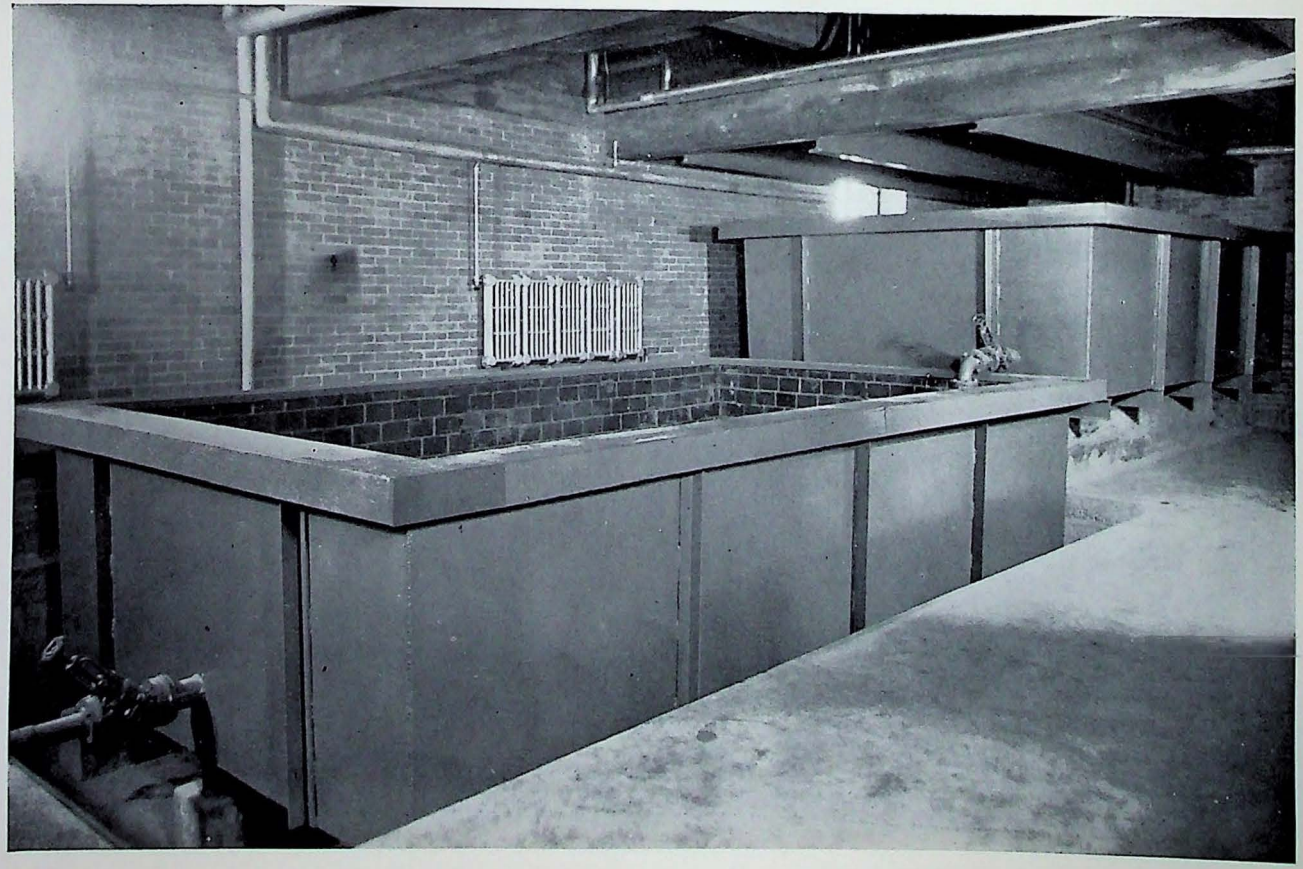


Basement showing main flue, branch from chlorination room flue, and one fan with motor

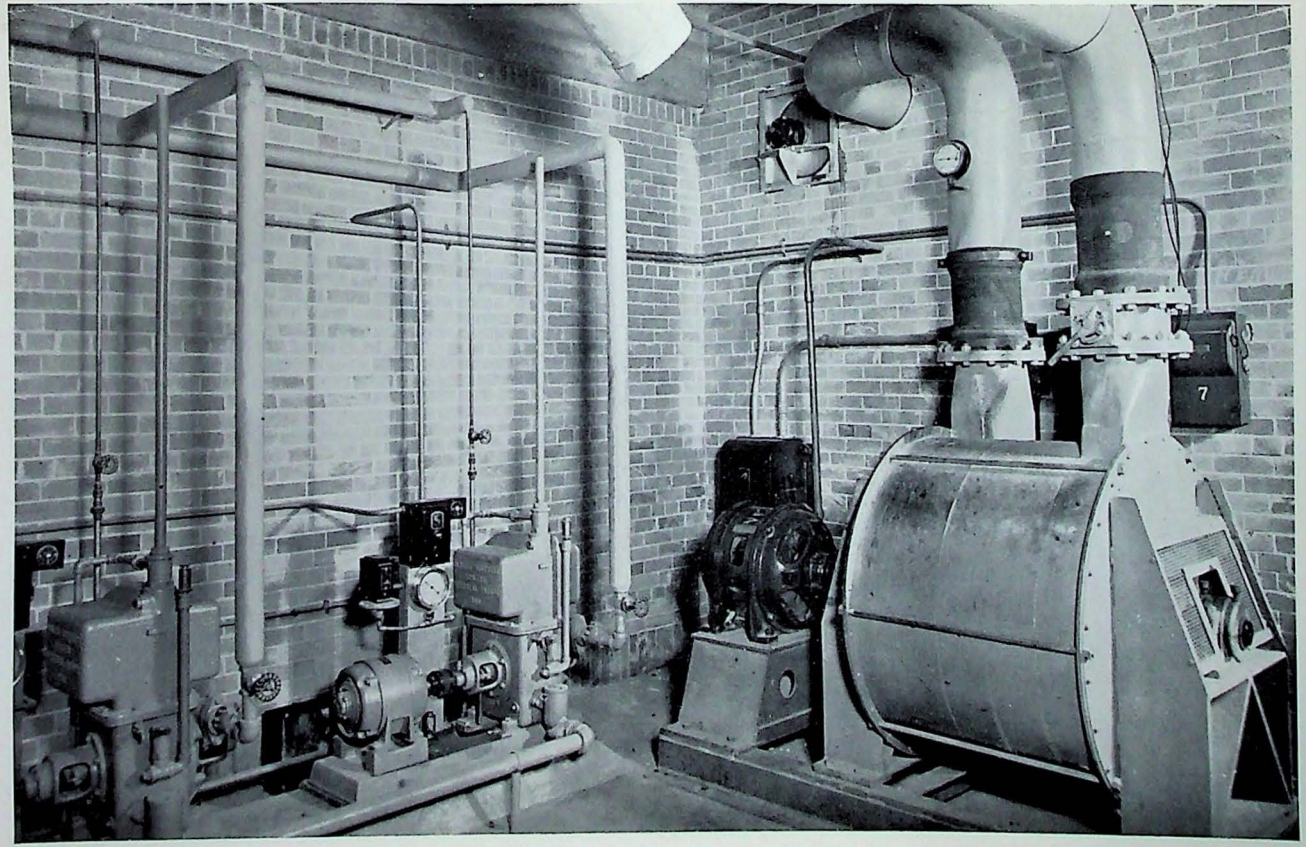
Chlorination Room, showing one side of bank of chlorination furnaces, with hoods and top of flue



Fine gold being poured from tilting furnace



Settling Tanks in Chloride Reduction Room



Air Compressor and Water Cooling and Circulating Plant