BACK PAPERS.

G.O.	No.	Department.	Date.	G.O.	No.	Department.	Date.

FURTHER PAPERS.

G.O.	No.	Department.	Date.	G.O.	No.	Department.	Date.

Revenue (1897) Department.

CURRENT No. 3172

Print
17/5

1316

The Honble Mr J. Grose C.I.E.

GOVERNMENT OF MADRAS
6 MAY 97

From

The Board of Revenue; Land Revenue, Madras.

No. 1574 Mis.

Order No. 345 of 17th May 1897.
15/5/97

Recorded.
12/5/97
13/5/97

Dated 1st May 1897.
Received 6.5.97
Registered 7.5.97
Enclosures 4
Spare copies

To the Board (L.R.) with encls.
Dis. 23.6.97

SUBJECT.

Stating in reply to G.O.NO.--228 dated 1st April 1897 that - nothing would be gained by any further reference to Mr.Collyer until his process of producing pig iron of the best quality in the Salem District with gaseous fuel has been put to more ex--- tended practical proof.

C 13/5/97

BACK PAPERS. 9

G.O.	No.	Department.	Date.
	228	Rev	1.4.97

FURTHER PAPERS.

G.O.	No.	Department.	Date.

3,000
10-12-96.

REVENUE BOARD OFFICE. MADRAS.

Proceedings of the Board of Revenue

(Land Revenue)

NO.1574 Misc.dated 1st May 1897.

Read the following papers:-

(1).Government Order,Revenue Department,~~Mis~~.NO.228,dated 1st April 1897.

(2).Also letter from the Ag.Agent and Manager Madras Railway Com-- pany,to the Secretary to the Board of Revenue,Land Revenue,Madras, NO.3497,dated 31st March 1897.

(3).Also endorsement of C.H.Mounsey Esq.,Ag.Collector of Salem NO. 1914,dated 4th April 1897.

Resolution.

The Board,when submitting Mr.Collyer's Memorandum,did -- not consider it necessary to suggest that any further reference -- should be made to Mr.Collyer,as the Memorandum seemed to show ---- clearly that he was not in a position to give any definite evidence in support of the opinion expressed by him.This view is borne out by the papers,now forwarded by the Agent and Manager of the Madras Railway and by the Collector of Salem,from which it will be seen - that,in a communication addressed to the Railway Company's Board - of Directors in London,Mr.Collyer stated that he had "formed no -- definite plan and would first like to ~~xxxx~~ have the opinions and - criticisms of practical experienced gentlemen like"the Secretary & his Directors.Again in his letter to the Revd.Mr.Foulkes,from which quotations are made in the papers forwarded by the Collector of -- Salem,Mr.Collyer states "at present there are no printed particu-- "lars applicable to smelting:we hope in due ~~xxxxxx~~ time to supply - "this want.We have ample experience of the working of this system for other purposes."

2. The idea of smelting iron by means of petroleum gas is no novelty,and special furnaces for the purpose have been under trial - for many years.It is possible that the invention for which a patent is held by the firm represented by Mr.Collyer may have solved all -- difficulties,but it seems clear that Mr.Collyer is not yet in a posi tion to show that this is the case,and the Board submits that until - the process has been put to more extended practical proof,nothing -- would be gained by any further reference to Mr.Collyer.

(True Extract)

L.D.Swamikannu

3 MAY 1897

for Secretary.

TO.

The Secretary to Government Revenue Department with the endorsement of the Collr.of Salem & its enclos. & Genl.Regr.NO.1715 & enclos. in original to be returned.

The Collector of Salem

Q.B.

Government (1897) of Madras.

REVENUE.

Recd. } 1897. *Enclosures*

Regd. } *Spare copies*

G.O., No. 345, 17th May 1897.

MAY.

Pig Iron.

Recording Board's Proceedings stating that nothing would be gained by any further reference to Mr. Collyer until his process of producing — of the best quality in the Salem district with gaseous fuel has been put to more extended practical proof.

GOVERNMENT OF MADRAS.

REVENUE DEPARTMENT.

Read—the following Proceedings of the Board of Revenue (Land Revenue), Mis. No. 1574, dated 1st May 1897 :—

Read—Government Order No. 228, Revenue, dated 1st April 1897.

Read—also the following letter from the Acting Agent and Manager of the Madras Railway Company, to the Secretary to the Board of Revenue, dated Madras, 31st March 1897, No. 3497 :—

I have the honour to enclose, for the information of the Board of Revenue, a copy of the correspondence which has passed between the Company's Board of Directors in London and Mr. C. E. Collyer of Messrs. Thirkell & Co. on the subject of the use of gas fuel for smelting purposes and of the gas for illuminating purposes.

Enclosures.

From C. E. COLLYER, Esq., of Thirkell & Co., Produce Brokers, dated 155, Freechurch Street, London, 17th February 1897.

[*Salem and other iron ores.*]

I avail myself of your permission to send a short statement on the fuel question.

2. My firm having secured the sole disposal of the rights for use in India, is ready to enter into suitable arrangements for promoting the use of this fuel for all purposes on commercial lines on the largest scale. I shall consequently be much obliged if you will lay this matter before your Directors, any of whom I shall be glad to meet at their convenience.

3. The system for lighting can be seen in operation near London where over 1,000 lights and several gas engines are regularly supplied.

4. Thanking you in advance for your assistance and for what you may do in the future.

N.B.—This gas has been adopted by the Russian Government for large barracks, factories, and railway workshops at Petersburgh, Wirballen, Pskoff and elsewhere, and we have v. tually concluded negotiations for the use of the system in another European country.

Numerous testimonials can be seen from Government officials, engineers, experts and consumers.

From C. E. COLLYER, Esq., to the Secretary, Madras Railway Company.

[*Salem and other iron ores.*]

With reference to our conversation of this morning, recent investigations and discoveries have led me to the conclusion that the iron ores of India can now be economically smelted, and iron and steel produced in any required quality and condition on the largest scale at a cost at the works: below the average cost of similar qualities in Europe, and that not only may the 300,000 to 400,000 tons of raw iron, &c., now annually imported into India (mostly I fear from Germany and Belgium) be produced from the Native ores, much below the cost of imported iron, but there will be sufficient margin in cost to permit of a large export trade in iron from India to Europe and elsewhere.

It is found that smelting can be most economically carried on, with advantage to the quality of the iron and steel produced by the use of a specially rich gaseous fuel applied in a particular manner, by a patented system for which my firm are the sole agents. This fuel being entirely free from any trace of sulphur or sulphurous compounds is of special value for the production of steel of high quality.

This fuel is produced from the cheapest oils, crude petroleum being preferred, there is practically no limit to the quantity that can be produced and I am in a position to show that prices will so soon as the recent discoveries are developed in the East be at least as low in India as in Europe.

The oil used for fuel would have to be conveyed from the port of discharge to the iron works and the iron and steel produced would have to be carried to the place of consumption or shipment, these two traffics must necessarily be of great advantage to your railway and on this ground as well as on the more general basis of the advantage to the country at large, I venture to ask your co-operation and assistance to enable me to place this matter on a sound commercial basis. I have so far formed no definite plan. I would first like to have the opinions and criticisms of practical experienced gentlemen like yourself and your Directors, any of whom I should be pleased to meet by appointment to talk over this matter, which I venture to say will be found a practical solution of the fuel difficulty (on the large scale).

I may add that the same gas making plant can produce gas for lighting towns. Buildings of all sizes, railway carriages, omnibuses and public carriages, also for driving stationary and locomotive engines, &c.

We have compressed this gas up to 650 lbs. per square inch—the limit of our pump—without any appreciable loss of illuminating power, and lighted up an omnibus for several months to the satisfaction of the owners who have offered us a contract for lighting a considerable number of vehicles. As the gas will bear a much larger degree of compression without injury, I am within the mark in saying a cylinder of this gas will light a carriage six times longer than any other gas in the market and at a cheaper cost.

On the basis of the prices and figures given in the supplement of *Fort St. George Gazette* of 15th December 1896, pig iron of the best quality can be produced from ore of 50/60° at from 20 to 25 rupees per ton at the works (capital charges excepted) or about half the cost of production by solid fuel.

From JULIAN BYRNE, Esq., Secretary, dated 61, New Broad Street, London, 2nd March 1897.

In reply to your letter of the 17th ultimo and its enclosure, I am to say that your letter will be sent to the Company's Agent and Manager at Madras, for information and should your firm determine to directly or indirectly introduce the use of Gas fuel for smelting purposes in the part of the Madras Presidency served by this company's Railway, their Agent and Manager will be found willing to afford such reasonable facilities as regards rates for carriage of fuel, ores, manufactured metals, &c., as the circumstances may indicate to be proper.

2. No doubt also a trial will readily be given to metals manufactured in India by the process in which your firm is interested, if they can be placed on the market at prices comparing favourably with those of similar quality hitherto obtained from other countries.

3. The Madras Railway already manufacture oil gas for use in their carriages, &c.

Read—the following letter from Rev. T. FOULKES, to the Collector of Salem, dated Salem, 31st March 1897.

Mrs. Foulkes has received your communication No. 1586 of the 20/27th of this month, enclosing Mr. Collyer's memorandum on the iron ores of India, for which she begs to thank you.

2. It has appeared to me for some years past that a system of smelting iron by means of petroleum might be developed in due time, and that the material for it might be obtained cheaply enough from the petroleum mines of Burma, and I gave expression to the idea in the address of the Salem Municipal Council to His Excellency the Governor of Madras, Lord Connemera, on his visit to Salem in April 1887. I had then before me these two facts: (1) that while the heat of combustion of charcoal and coke is about 4,400 and that of coal about 8,300, the heat obtained from petroleuml, is 10,600, and (2) that petroleum experiments already made were said to be successfu 30 barrels of petroleum having produced the same results as 40 tons of coal.

3. Mr. Collyer's "gaseous fuel" is obtained from petroleum at a low cost and by a simple process, and so far it appears to be very suitable for smelting iron.

4. I wrote to Mr. Collyer on the appearance of his letter in the *Madras Mail* of the 17th of December last, and I have received his reply, from which I gather that his experiments are not sufficiently developed to admit of publication. He says "at present there are no printed particulars applicable to smelting; we hope in due time to supply this want. We have ample experience of the working of this system for other purposes," namely, for lighting purposes. His letter is dated the 26th of February or about three weeks after his memorandum to Government.

5. Since then my London Agents have had a personal interview with Mr. Collyer on the subject and in their letter of the 16th of this month they inform me of the result. I gather from this letter also that the matter is still in an experimental stage, and therefore not ripe for introduction into this country.

6. I will continue to correspond with Mr. Collyer on the subject, and I shall be happy to communicate to you anything of importance that he may tell me.

Endorsement No. 1914.

Copy submitted to the Board of Revenue in continuation of letter No. 896, dated 24th February 1897.

4th April 1897. (Signed) C. H. MOUNSEY,
Ag. Collector.

Resolution—Mis. No. 1574, dated 1st May 1897.

The Board, when submitting Mr. Collyer's memorandum, did not consider it necessary to suggest that any further reference should be made to Mr. Collyer, as the memorandum seemed to show clearly that he was not in a position to give any definite evidence in support of the opinion expressed by him. This view is borne out by the papers now forwarded by the Agent and Manager of the Madras Railway and by the Collector of Salem, from which it will be seen that, in a communication addressed to the Railway Company's Board of Directors in London, Mr. Collyer stated that he had "formed no definite plan and would first like to have the opinions and criticisms of practical experienced gentlemen like" the Secretary and his Directors. Again in his letter to the Rev. Mr. Foulkes, from which quotations are made in the papers forwarded by the Collector of Salem, Mr. Collyer states "at present there are no printed particulars applicable to smelting; we hope in due time to supply this want. We have ample experience of the working of this system for other purposes."

2. The idea of smelting iron by means of petroleum gas is no novelty, and special furnaces for the purpose have been under trial for many years. It is possible that the invention, for which a patent is held by the firm represented by Mr. Collyer, may have solved all difficulties, but it seems clear that Mr. Collyer is not yet in a position to show that this is the case, and the Board submits that until the process has been put to more extended practical proof, nothing would be gained by any further reference to Mr. Collyer.

(True Copies and Extract.)

(Signed) L. D. SWAMIKANNU,
Assistant Secretary.

To the Secretary to Government, Revenue Department,
with the endorsement of the Collector of Salem and its enclosures,
and G.R. No. 1713 and enclosures, in original, to be returned.
„ the Collector of Salem.

Order—No. 345, Revenue, dated 17th May 1897.

Miscellaneous.

Recorded.

(True Extract.)

(Signed) G. STOKES,
Ag. Secretary to Government.

To the Board of Revenue (Land Revenue), with enclosures.

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Main G.O., No. 189

Patent No.

Enclosures to C. No.

Order of Government

Letter of Government

Statement with ditto.

Papers ... being meant for Estatem

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A = Print in full.
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Q = Print heading only.