M.R.O. 1—22,400—22-11-30.

MADRAS RECORD OFFICE.

Government of Madras.

Public Works DEPARTMENT.

G.O. No. 73	Press Mis.
Dated 12-1-	1931.

Not to be folded or roughly handled

No. 22. Read the following letter from Colonel C. E. FABER, Chief Engineer ; to W. H. BAYLEY, Esq., Acting Secretary to Government, dated 3rd June 1858, No. 822 A.

SIR,

Having now taken measures agreeably to the orders of Government for the obtainment of a Report on the second of the two steam Engines which the Acting Mintmaster Lieutenant Colonel F. C. Cotton, had received from the Grand Arsenal for the facilitation of his operations, it seems advisable for the purpose of removing more than one misunderstanding, rather than mis-statement, that I should offer some observations on the series of letters which precedes the final orders of Government in the Extract from the Minutes of Consultation No. 890 of the 8th Ultimo.

E. M. C. No. 890, dated 8th May 1858.

2. The prominent error pervading the whole correspondence is, the gratuitous attribution of a connexion between the contents of the Grand Arsenal and the Chief Engineer of the Department of Public Works, who for any practical purposes has as little control over, or relation with, the Government Stores in the custody of the Ordnance Department, as the Secretary to the Military Fund or other Officer holding an independent appointment.

3. It is the more remarkable that the Acting Mintmaster should have fallen into such a mistake ; because his own substantive appointment is that of Superintending Engineer Northern Circle of Public Works, and he was in the actual discharge of his duties in the Central Office when the correspondence* occurred with Government, wherein it was ordered that all Stores without exception should be in the sole custody of the Ordnance Department, by whom they were to be received, disembarked, unpacked, examined, stored and registered and finally by whom they were to be issued to the parties indenting with the sanction of Government, on the Stock value† for each, being duly paid for each article. (See Extract Minutes of Consultation No. 460, 12th March 1857.)

* 1057, 6th May 1856.
835, 6th June „

† 460, 12th March 1857.

4. But the mistake is even yet more remarkable in the case of Lieutenant Colonel F. C. Cotton, because when applying at my own suggestion for the permission of Government to appropriate a second steam Engine, (which under the former system that had left the distribution of Public Works Stores to the Chief Engineer, I had placed at his disposal), the Government were pleased to remark that " such orders can no more be issued by the Chief Engineer without the authority of Go- " vernment, than their money value could be paid out without such authority."

Vide E. M. C. No. 145 dated 21st January 1857, para. 2.

5. Notwithstanding my official disconnexion however with the alleged defective apparatus, complained of by the Acting Mintmaster so long as the 15th July 1857 after it had come in his possession, I apprehend that the usual acknowledgment of his letter would by no means have been omitted, but for my own personal assurance conveyed in social discourse, that the steam Engine never had been in the Chief Engineer's possession, and therefore, that he could neither take cognizance of its defects, nor redress them by the issue of another, all custody having been removed to the Officers of Ordnance. I was easily open to the impression (confirmed moreover by entire subsequent silence on the part of the Mintmaster) that the necessary representations had been made to the proper quarter for a new instrument, and I think the Government will admit, that the absence of any second application was well calculated throughout so long a period, to fortify this belief.

6. I am quite at a loss to account for the generally prevalent and persistive errors of assigning the steam Engine to the Engineer Department ; but it will have been duly observed, that in Lieutenant Colonel F. Cotton's letter to Mint Committee of the 18th January 1858, No. 283, para. 1, and again in the same Officer's letter 301, paras. 1 and 2 and 3 of the 4th February also to the Mint Committee,

E. M. C. No. 890, dated 8th May 1858.

No. 60 dated 12th March 1858.

the same strangely mistaken statement is made. Para. 2 of Mintmaster's letter to the Inspector General of Ordnance, similarly assumes the Chief Engineer's Department to have been concerned in the matter, and lastly, Mr. C. Roberts as Secretary to the Mint Committee informs the Government, with an odd oversight of the obvious fact to their own observation, that the Ordnance Auditor was the Payee of their own Bill on the Accountant General, which nevertheless is represented by the Secretary Mint Committee of 26th March 1858, No. 75, to " have been purchased from the Chief Engi- " neer's Department."

7. If the foregoing statement be found tedious and more prolix than a fulfilment of your orders of the 8th Ultimo renders necessary, I must beg the indulgence of Government towards that personal exculpation which is so natural under all the circumstances of the present case, and I now proceed to report that in the investigation into the more material allegations of Lieutenant Colonel F. Cotton's Statement, the service of Government in the particular matter hardly could have been more effectively performed, or in a manner better calculated to obtain full confidence than has resulted from the employment of a special Committee composed of,

President.

Captain Orr, Acting Superintending Engineer, and

Members.

Captan P. P. O'Connell, Assistant Chief Engineer.

Mr. Thompkinson, Mechanical Engineer, in charge of Nasnyth's Steam Pile Driver.

Mr. Flockhart, Mechanical Engineer, in charge of Rivers, Steam Dredges.

8. The Proceedings of the above professional body are drawn up with great care and clearness, and although tending to completely disprove the very unhesitating assertions of so experienced and accomplished an observer as the Acting Mintmaster, yet the collective opinions of a Committee, each individual member of whom is entitled to speak with a no less measure of authority than the Lieutenant Colonel himself, together with the strong corroboration afforded by the unexpected evidence and testimony which Mr. Thompkinson was found to be in a position to voluntarily place on record, appear to me to be altogether conclusive ; so much so indeed, that it is unnecessary to appeal to the recollection of what all must have seen, during the many weeks of the 1857 Exhibition being kept open.

9. Nor indeed is there as it seems to me, any thing nearly so difficult in the acceptance of the very different version now offered to Government by the special Committee, as in a belief of the representation previously brought forward by Lieutenant Colonel F. Cotton, I regret my inability to claim the practical knowledge and acquaintance with Machinery and Engines necessary to attach any weight to my judgment on so dubious a point as trustworthiness of material and work in particular parts of a Steam Engine, but my own very far from superficial examination of the whole apparatus when in full work, the then universal satisfaction diffused by its behaviour, and the utter unlikelihood of any respectable Founder or Engineer (and it seems idle to suppose that dealings would be had with *disreputable* tradesmen) running the risk of detection and disgrace for so paltry a gain as that from vamping up and effecting the sale of a damaged article, all these combined to awaken the liveliest doubts as to the correctness of the Mintmaster's opinions at the very first moment I heard them expressed ; and therefore, it was not with any *surprise* that I was made aware of the verdict arrived at by the Committee.

10. Painful as is the duty, I do not feel at liberty to refrain from requesting the very particular attention of Government to the 3rd, 5th and especially the 7th paras. of the Committee's Proceedings* and to the last para. of the separate letter* dated the 20th of May from Mr. Thompkinson. It is quite indisputable from all these taken together, that the Steam Engine, has been subjected to rough usage and unfair treatment generally, and adverting to Captain Yule's intimation of the 28th January last No. 451, that the Government of India had directed the Department of Public Works in the Lower Provinces to be answerable

* Herewith forwarded.

Vide E. M. C. No. 336 dated 27th February 1858.

for its own stores, I cannot but think, that the information which has been elicited respecting the treatment of a Steam Engine sent out by the Honorable Court for introducing more effective processes in the Public Works Executive, is calculated to impress the Right Honorable the Governor in Council favorably towards the issue of the same instructions, as regards the *Madras* Department of Public Works Plant and Stores, that have recently been promulgated in Calcutta.

11. In conclusion, I hope that although the custody or control of the Steam Engine in question forms no part of my own functions, I may yet venture to respectfully recommend, that such repairs as are actually necessary (and they are represented to be neither extensive nor expensive) may receive the sanction of Government for immediate execution, and as the Mint has been duly debited with the full stock value of the apparatus, I presume that when the Steam Engine is again restored to full working order, it will be delivered to the Officer (Captain Winscom) now in charge of the Mint, and by whom it will doubtless be utilized in working the additional shafting or such other purpose as may be required. The property of portability, its most convenient quality as Department of Public Works Plant, is of course a useless characteristic for the stationary machinery of the Madras Mint.

Proceedings of a Committee appointed by the Chief Engineer on the 12*th May* 1858, *to examine and report on a small portable Steam Engine at the Mint.*

President.

Captain C. A. Orr, Officiating Superintending Engineer Northern Circle.

Members.

Captain P. O'Connell, Assistant to Chief Engineer.

Mr. Thompkinson, } Mechanical Engineers.
Mr. Flockhart, }

1. The Committee having assembled, proceed to examine the Engine, beginning with the Boiler, which is found standing in the open yard exposed to the weather, and in a very unserviceable state, the greater part of the casing having been destroyed by rust is gone, the Boiler, generally covered with rust, has the surface of its plates in some parts, as under the fire and smoke boxes, so oxydized as to readily exfoliate in thickish flakes, and several of the heads of the rivets are broken off.

2. In the inside the tubes and bottom are encrusted with a deposit of salt from 1-10th to 1-8th of an inch in thickness.

3. The working parts having been detached from the boiler are found under shelter, and having been closely examined, appear to the Committee to be in a perfectly serviceable condition, and only requiring such cleaning and slight repairs as might be made in any small workshop.

4. Looking at the unworn state of the working parts, and taking into consideration the statement made by Mr. Thompkinson, of which a copy is appended to these Proceedings, regarding the treatment the Engine received previous to its removal to the Mint, the Committee is of opinion, that the external state of the Boiler may be accounted for by the circumstance of its having been allowed to remain exposed to rain, which finding its way within the casing, and there lodging, caused the rapid oxydation of the external sheathing, and the injury of the Boiler itself. The Committee thinks that this, with the negligent management of the Engine about to be noticed, is quite sufficient to cause most of the appearances of decay observable on the outside, and it considers that the encrustation found upon the tubes &c., may easily be the effect of only a few days work with salt or very brackish water, if no care were taken, by frequent blowing off, and occasional emptying to prevent concentration of saline or earthy matter within the Boiler.

5. The state of the working parts appears to the Committee to shew, that no care whatever has been taken of the Engine, and therefore, to justify the opinion it has formed, that the injuries the Engine has sustained, have been the result of mismanagement since its arrival in this country, and that there is nothing to support the opinion that it was not new when despatched from England.

6. The Committee believes that the Engine though at present unserviceable, may with little labour and no great expense, be put into thorough working order at any ordinary Workshop.

7. In conclusion, the Committee thinks it only proper to add, that the working parts of the Engine were found in the same state as that in which they must have been removed from the Boiler, and that no care seemed to be taken to clean or oil them, or prevent their further injury by rust.

(Signed) C. A. ORR, Captain,
President.

(Signed) P. O'CONNELL, Captain.
(„) D. THOMPKINSON,
(„) JAMES FLOCKHART,
} Members.

(True Copy.)

(Signed) C. E. FABER, Col.
Chief Engineer.

Letter from DAVID THOMPKINSON, Mechanical Engineer, in charge of the Steam Pile Driving Machine, Member of a Committee held at the Mint on Wednesday the 19th May 1858, to examine a 6 Horse Power Steam Engine; to Captain C. A. ORR, Superintending Engineer, Northern Circle, Chairman of a Committee held at the Mint, on Wednesday the 19th May 1858, to examine a 6 Horse Power Steam Engine, dated 20th May 1858.

SIR,

I have the honor to state that we found the said Steam Engine to have been badly used and very much neglected; that at present it wants proper cleaning and repairing, as many screws, bolts &c. in taking to pieces at the Mint, were broken and that the Valve faces want surfacing over again, as they are in a bad state of repair; the Boiler I consider to be good,—with these repairs, it would be almost as good as ever.

The said Steam Engine on its arrival from London, first went to the school of Arts along with another of the same make, which one is now at work there, this one was transferred to the Arsenal, soon after that time, I was requested to examine it and start it to work, which I did to the satisfaction of every one in the Arsenal—in the spring of 1856, it worked well at 7lb per square inch, and worked from 120 to 200 revolutions per minute, but I found from the steam jerking, that something was wrong with the Valves. I examined and found the expansion Valve was broken—I repaired it by fitting it with a new brass one cast in the Arsenal Forge; after that I tried it with a circular saw 18 inches Diameter in the Arsenal, and it worked very well, and cut hard Burmah timber at 12lb. on the square inch, at the same time the full working power is 50lb, per inch; I am led to conclude at that time it was a new one, missing the trial which most small Engines have before leaving the Workshop, seeing the state of the brasses and working bearings.

After that it was sent to the Exhibition, and was there some time with the working Machinery, &c. When it was returned to the Arsenal it was in a most disgraceful state, both with dirt and rust, the outside casing at the bottom of the fire box was eaten away with rust. I suggested at the time, it ought to be cleaned, but no notice was taken of the Engine; for some time it stood in the Arsenal yard exposed to all weathers, after that it was sent to the Mint: the incrustation internally took place I believe at the Exhibition for the want of proper care in blowing off and washing out, and not allowing the lime, salt, &c. to settle after each time of working, seeing there were no Brine pump, as that is the only remedy to prevent incrustation where no chemic is used.

No. 23. ORDER THEREON, No. 1369; dated 15th July 1858.

1. In their letter of the 26th March 1858, No. 75, the Mint Committee brought to notice, that a steam Engine originally belonging to the Public Works Department, purchased for the

service of the Mint, was received at that establishment in a "thoroughly unserviceable state;" and they requested that it "should be returned to the Department whence it came, and the cost debited accordingly." In a letter from the Acting Mint Master to the Mint Committee, dated 4th February 1858, No. 301, that Officer stated, that the Engine had been issued as new; that it had arrived from England some short time previously, and was used for a few days only at the Madras Exhibition, where it could not have sustained any material deterioration; and that it was evidently therefore an old Engine when it was sent out. In a letter of older date (15th July 1857, No. 83), Lieutenant Colonel F. C. Cotton remarked to the Chief Engineer, that the condition of the Boiler led him to think, that it must have been used for some time in England, and sent out when considered unfit for use there. He added, that it was impossible to suppose that the lime deposited one tenth of an inch thick upon the tubes, and heaped upon the bottom, could have been formed in the few days the Engine had been worked in this country; that he could not believe that the Boiler would have been so utterly destroyed, either while in work, or when in store, as to be actually eaten through by rust; and that he had no idea where the Engine had been purchased, but it had every appearance of having been worked with water from a filthy horse pond in England, and after having thrashed the corn of a Parish or two, sold for export to India.

2. On such information being placed before them, the Government called* upon the Chief Engineer to submit a report on the state of the Engine when he received it, the use it had been put to in the interval, and its present condition, for communication to the Honorable Court of Directors.

* E. M. C. Finl. Department 8th April 1858, No. 235.
E. M. C. P. W. Department, 8th May 1858, No. 890.

3. From the papers now received from the Chief Engineer, it appears that he took the judicious step of appointing a professional Committee, to examine and report upon the condition of the Engine. This Committee consisted of Captain Orr, the Acting Superintending Engineer of the Northern Circle as President, and Captain P. O'Connell, Assistant to the Chief Engineer, and Mr. Thompkinson and Mr. Flockhart, Mechanical Engineers as Members. Their Proceedings are submitted; and from them, as well as a separate letter from Mr. Thompkinson, the Government learn that the Boiler was found by the Committee to be in a very unserviceable state; the greater part of the casing having been destroyed by rust, the surface of its plates (under the fire and smoke boxes) so oxydized as to readily exfoliate in thick flakes, and several of the heads of the rivets broken off; while the inside of the tubes and bottom was encrusted with a deposit of salt from one-tenth to one-eighth of an inch in thickness. This condition of the Boiler is attributed by the Committee, to the circumstance of its having been allowed to remain completely exposed to the weather, totally uncared for, and neither cleaned nor oiled; the working parts of the Engine, which were detached from the Boiler and kept under shelter, are perfectly serviceable. The encrustation found in the tubes and bottom, is considered might have occurred from only a few days work with salt or very brackish water, if no care were taken by frequent blowing off and occasional emptying. The Committee distinctly record their opinion, that, the injuries sustained by the Engine have been the result of mismanagement *since its arrival in this country*, and that there was nothing to support the opinion, that it was not new when despatched from England.

4. In his separate letter, Mr. Thompkinson furnishes the result of his *personal knowledge* of the Engine, and the usage to which it had been subjected since its arrival from England. He reports that he worked it with satisfaction at the Arsenal in the beginning of 1856; that it was afterwards sent to the Madras Exhibition; and that on its return to the Arsenal, it was in "a most disgraceful state, both with dirt and rust." Mr. Thompkinson adds, that he suggested the cleaning of the Engine, but that it was allowed to stand in the Arsenal yard, exposed to all weathers, after which it was sent to the Mint; the internal encrustation however, in his belief, having taken place at the Exhibition, for want of proper care in blowing off and washing out, and not allowing the lime, salt, &c. to settle after each time of working.

5. The Chief Engineer disclaims all connection with the Engine in question,—is opposed to its return to store as part of the property of the Public Works Department, and recommends its repair and restoration to the Mint.

6. It is very clear from the Committee's report, and more especially so from Mr. Thompkinson's letter, that the Engine did come out new and in good condition, for Mr. Thompkinson not only saw the machine on its arrival, but he worked it himself. It is also clear from Mr. Thompkinson's personal observation, that it was not properly cared for at the Arsenal after its return from the Exhibition, and was sent to the Mint generally rusted, with the Boiler encrusted with salt, and utterly unfit for use. The Engine, however, seems to have sustained no serious damage after all, for the Committee "believe that the Engine, though at present unserviceable, may with little labor and no great expense, be put into thorough working order at any ordinary workshop." In accordance, however, with a proposal of the Acting Mint Master, separately conveyed,* the necessary orders have been already issued for the repair of the Engine at the Dowlaishwaram workshop; the cost of the repair being borne by the Mint, and the Engine itself restored to that establishment on its return from Dowlaishwaram.

* From Mint Committee, 12th May 1858, No. 97.
Financial E. M. C. 22nd May 1858 No. 339.
Public Works E. M. C. 11th June 1858, No. 1106.

7. Colonel Faber has taken this opportunity of recurring to the advisability of initiating a system, as in Bengal, of making the Public Works Department answerable for the safe custody of its own stores; but no orders can now be issued on this subject, as a reference is before the Government of India* at the instance of the Chief Engineer himself, for information as to the means at the disposal of the Chief Engineer of the lower Provinces in Bengal, for landing, taking care of, and issuing Machinery and Stores, belonging to the Public Works Department.

* To Government of India, 22nd June 1858, No 1178.

8. The Government resolve to forward the papers to the Inspector General of Ordnance for any explanation he may have to offer, as to the disgraceful state of the Engine.

(Signed) T. PYCROFT,
Chief Secretary.

From

David Thompkinson
Mechanical Engineer
In charge of the Steam Pile Driving Machine
Member of a Committee held at the
Mint on Wednesday the 19th May 1858.
to examine a 6 Horse Power Steam Engine

To

Captain C. A. Orr.
Superintending Engineer Northern Circle
Chairman of a Committee held at the Mint
on Wednesday the 19th May 1858 to examine
a 6 Horse Power Steam Engine

Sir,

I have the honor to state that we found the said Steam Engine to have been badly used and very much neglected, that at present it wants to properly cleaning and repairing, as many screws Bolts &c in taking to pieces at the Mint were broken, and that the Valve faces wants re surfacing over again as they are in a bad state of repair, the Boiler I consider to be good, with these repairs it would be almost as good as ever.-

The said Steam Engine on its arrival

from

From London first went to the School of Arts along with another of the same make, which one is now at work there. This one was transferred to the Arsenal, soon after that time I was requested to examine it and start it to work, which I did to the satisfaction of every one in the Arsenal. In the Spring of 1856 it worked well at 7 lbs per sqre Inch, and worked from 120 to 200 revolutions per minute, but I found from the steam jerking, that some thing was wrong with the Valves. Examined and found the expansion Valve was broken. I repaired it by fitting it with a new Brass one cast in the Arsenal Forge, after that fitted it with a Circular saw 18 Inches Diamiter in the Arsenal, and it worked very well, and cut hard Burmah timber at 12 lb on the square Inch, at the same time the full working power is 50 lb per Inch, I am led to conclude at that time it was a new one missing the trial which most small Engines have before leaving the Work Shop seeing the state of the Brasses and working bearings.-

After that it was sent to the Exhibition, and was there some time with the working Machinery &c., when it was returned to the Arsenal it was in a most disgraceful state both Dirt and rust, the outside casing at the bottom of the Fire Box was eaten away with rust. Suggested at the time it ought to be cleaned, but no notice was taken of the Engine, for some time it stood in the Arsenal yard exposed to all weather, after that it was sent to the Mint. The incrustation internally, took place I believe at the Exhibition for the want of proper care in blowing off and washing out, and not allowing the lime, salt &c. to settle after each time of working, seeing there were no Brine pumps as that is the only remedy to prevent incrustation where no Chemic is used.-

I have the honor to be Sir
Your most obedient Servant
(Signed) D. Thompson
Mech.l Engineer

Madras
20th May 58.

(True Copy)
A. Taylor Lieut Colonel
Chief Engineer

Enclosure No. 1 to Letter
From
The Chief Engineer
To The Secretary to Government
Public Works Dept.

Letter No. 3 dated June 1858.
Rec.d

No. 2911.

BP 126/58

Forwarding a letter from Mr. D. Thompkinson Mechanical Engineer, reporting on the present condition of the Steam Engine at the Mint.

Proceedings of a Committee appointed by the Chief Engineer on the 12th May 1858, to examine and report on a small portable Steam Engine at the Mint.

President

Captain C. A. Orr, Offg. Supt. Engr. Northern Circle.

Members

Captain P. O'Connell, Asstt. to Chief Engr.
Mr. Thompkinson
Mr. Flockhart } Mechanical Engineers

1. The Committee having assembled proceed to examine the Engine, beginning with the Boiler, which is found standing in the open yard exposed to the weather, and in a very unserviceable state, the greater part of the casing having been destroyed by rust is gone, the Boiler, generally covered with rust, has the surface of its plates in some parts, as under the fire and smoke boxes, so oxidized as to readily exfoliate in thickish flakes and several of the heads of the Rivets are broken off.

2. In the inside the tubes and bottom are encrusted with a deposit of salt from 1/10th to

to 1/8th of an inch in thickness.

3. The working parts having been detached from the Boiler are found under shelter, and having been closely examined appear to the Committee to be in a perfectly serviceable condition, and only requiring such cleaning and slight repairs as might be made in any small Workshop.

4. Looking at the unworn state of the working parts, and taking into consideration the Statement made by Mr. Thompkinson, of which a Copy is appended to these Proceedings, regarding the treatment the Engine received previous to its removal to the Mint, the Committee is of opinion that the external state of the Boiler may be accounted for by the circumstance of its having been allowed to remain exposed to rain, which finding its way within the casing, and there lodging, caused the rapid oxidation of the external sheathing, and the injury of the Boiler itself. The Committee thinks that this, with the negligent management of the Engine about to be noticed, is quite sufficient to cause most of the appearances of decay observable on the outside, and it considers that the encrustation found upon the Tubes &c. may easily be the effect of only a few days work with salt or very brackish water, if no care were taken, by frequent blowing off and occasional emptying to prevent concentration of saline or earthy matter within the Boiler.

5 The state of the working parts appears to the Committee to shew that no care whatever has been taken of the Engine, and therefore to justify the opinion it has formed that the injuries the Engine has sustained have been the result of mismanagement since its arrival in this country, and that there is nothing to support the opinion that it was not new when despatched from England.

6. The Committee believe that the Engine though at present unserviceable, may, with little labour and no great expense, be put into thorough working order at any Ordinary Workshop.

7. In conclusion the Committee thinks it only proper to add that the working parts of the Engine were found in the same state as that in which they must have been removed from the Boiler

Boiler, and that no care seemed to be
taken to clean or Oil them, or prevent
their further injury by rust.

(Signed) C. A. Orr. Captain
President

Signed) P. O'Connell, Captain.
" D. Thompkinson
" James Flockhart. } Members.

(True Copy)
W. Ed Fitt Colonel
Chief Engineer.

Central Office of Public Works
Fort Saint George 3d June 1858.

№ 822A

From

The Chief Engineer

To

The Secretary to Government
Public Works Department

Sir,

"Public"

Ex: Mins: Cons: №890 dated 8th May 1858.

Having now taken measures agreeably to the orders of Government for the obtainment of a Report on the second of the two Steam Engines which the Acting Mintmaster Lieutenant Colonel J. C. Cotton had received from the Grand Arsenal for the facilitation of his operations, it seems advisable for the purpose of removing more than one misunderstanding, rather than misstatement, that I should offer some observations on the series of letters which precedes the final orders of Government in the Extract from the Minutes of Consultation №890 of the 8th Ultimo.

2. The prominent error pervading the whole correspondence is, the gratuitous attribution of a connexion between the contents

of

Endd B.

Enclosure in a letter
from
The Chief Engineer
&c.
The Secretary to Government
Public Works Department
dated 3d June 1858.

Letter 3d June 1858

№ 822A

Copy of Proceedings of a Committee assembled by the Chief Engineer on the 12th May 1858, to examine and report on a small portable Steam Engine at the Mint

of the Grand Arsenal and the Chief Engineer of the Department of Public Works, who for any practical purposes has as little control over, or relation with, the Government Stores, in the custody of the Ordnance Department, as the Secretary to the Military Fund, or other Officer, holding an independent appointment.

3. It is the more remarkable that the Acting Mintmaster should have fallen into such a mistake; because his own substantive appointment is that of Superintending Engineer Northern circle of Public Works, and he was in the actual discharge of his duties in the Central Office when the correspondence occurred with Government, wherein it was ordered, that all Stores without exception should be in the sole custody of the Ordnance Department, by whom they were to be received, disembarked, unpacked, examined, stored, and registered, and finally by whom they were to be issued to the parties indenting with the sanction of Government, on the Stock value for each being duly paid for each article (see Extract Minutes of Consultation No. 460, 12th March 1857.)

1057, 6th May 1856.
835, 6th June "

460, 12th March 1857

4. But the mistake is even yet more remarkable in the case of Lieutenant Colonel J. C. Cotton, because when applying at my own suggestion for the permission of Government to appropriate a second Steam Engine (which under the former system that had left the distribution of Public Works Stores to the Chief Engineer, I had placed at his disposal) the Government were pleased to remark that "such orders can no more be issued by the "Chief Engineer without the authority "of Government, than their money value "could be paid out without such authority."

Vide Exc: Mins: Cons: No. 145 dated 21st January 1857, Para 2.

5 Notwithstanding my official disconnexion however with the alleged defective apparatus, complained of by the Acting Mintmaster, so long as the 15th July 1857, after it had come in his possession, I apprehend that the usual acknowledgment of his letter would by no means have been omitted, but for my own personal assurance conveyed in social discourse, that the Steam Engine never had been in the Chief Engineer's possession, and therefore that he could neither take cognizance of its defects, nor redress them by the

of the issue of another, all custody having been removed to the Officers of Ordnance. I was hastily open to the impression (confirmed moreover by entire subsequent silence on the part of the Mintmaster) that the necessary representations had been made to the proper quarter for a new instrument, and I think the Government will admit that the absence of any second application was well calculated, through out so long a period, to fortify this belief.

6. I am quite at a loss to account for the generally prevalent and persistive errors of assigning the Steam Engine to the Engineer Department; but it will have been duly observed that in Lieutenant Colonel F. Cotton's letter to the Mint Committee of the 18th January 1858, No. 283, Para 1, and again in the same Officer's letter 301 Paras 1 & 2 & 3 of the 4th February also to the Mint Committee, the same strangely mistaken statement is made. Para 2 of Mint Master's letter to the Inspector General of Ordnance similarly assumes the Chief Engineer's Department to have been concerned in the matter, and lastly Mr. C. Roberts as Secretary to the Mint Committee informs the Government, with

Ex: Mins: Cons: No. 890. dated 8th May 1858.

No. 60 dated 12th March 1858.

with an odd oversight of the obvious fact to their own observation that the Ordnance Auditor was the Payee of their own Bill on the Accountant General which nevertheless is represented by the Secretary Mint Committee of 26th March 1858 to "have been purchased from the "Chief Engineer's Department."

No. 75.

7. If the foregoing statement be found tedious and more prolix than a fulfilment of your orders of the 8th Ultimo renders necessary, I must beg the indulgence of Government towards that personal exculpation which is so natural under all the circumstances of the present case, and I now proceed to report that in the investigation into the more material allegations of Lieutenant Colonel F. Cotton's Statement, the service of Government in the particular matter hardly could have been more effectively performed, or in a manner better calculated to obtain full confidence than has resulted from the employment of a special Committee composed of.

President

Captain Orr, Acting Superintending Engineer.

and Members

Captain P. P. O'Connell, Assistant Chief Engineer.

Mr. Thompkinson Mechanical Engineer in charge of Nasmyths Steam Pile Driver.

Mr. Flockhart Mechanical Engineer, in charge of Rivers Steam Dredges.

8.

8. The Proceedings of the above profes-
sional Body are drawn up with great care and
clearness and although tending to completely dis-
prove the very unhesitating assertions of so exc-
perienced and accomplished an observer as the
Acting Mintmaster, yet the collective opinions
of a Committee each individual member of
whom is entitled to speak with a no less
measure of authority than the Lieutenant Colonel
himself, together with the strong corroboration
afforded by the unexpected evidence and tes-
timony which Mr. Thompkinson was found to
be in a position to voluntarily place on record,
appear to me to be altogether conclusive, so
much so indeed that it is unnecessary to ap-
peal to the recollection of what all must
have seen during the many weeks of the 1857
Exhibition being Kept open.

9. Nor indeed is there, as it seems
to me, any thing nearly so difficult in the
acceptance of the very different version, now
offered to Government by the special Commit-
tee, as in a belief of the representation
previously brought forward by Lieutenant Colonel
F. Cotton, I regret my inability to claim the
practical knowledge and acquaintance with
machinery and Engines necessary to attach any
weight to my judgment on so dubious a point as
trustworthiness of material and work in particular
parts of a Steam Engine, but very far from super-
-ficial examination of the whole apparatus when
in full work, the then universal satisfaction diffused
by its behaviour, and the utter unlikelihood of any
respetable Founder or Engineer (and it seems
idle to suppose that dealings would be had
with disreputable tradesmen) running the risk
of detection and disgrace for so paltry a gain
as that from vauping up and effecting the
sale of a damaged article, all these com-
-bined to awaken the liveliest doubts as to
the correctness of the Mintmaster's opinions
at the very first moment I heard them
expressed; and therefore it was not with any
surprise, that I was made aware of the ver-
-dict arrived at by the Committee.

10. Painful as is the duty, I do not
feel at liberty to refrain from requesting the very
particular attention of Government to the 3rd,
5th, and especially the 7th paras of the Committees
Proceedings* and to the last Para of the separate
letter* dated the 20th of May from Mr. Thompkinson.

*Herewith forwarded

It

It is quite indisputable from all these taken together that the Steam Engine has been subjected to rough usage and unfair treatment generally, and adverting to Captain Yule's intimation of the 28th January last No. 451 that the Government of India had directed the Department of Public Works in the Lower Provinces to be answerable for its own Stores, I cannot but think that the information which has been elicited respecting the treatment of a Steam Engine sent out by the Honorable Court for introducing more effective processes in the Public Works Executive is calculated to impress the Right Honorable the Governor in Council favorably towards the issue of the same instructions, as regards the Madras Department of Public Works Plant and Stores, that have recently been promulgated in Calcutta.

Vide C. M. G. No. 336 dated 27th February 58.

11. In conclusion, I hope that although the custody or control of the Steam Engine in question forms no part of my own functions, I may yet venture to respectfully recommend that such repairs as are actually necessary (and they are represented to be neither extensive nor expensive) may receive the sanction of Government for immediate execution, and as the Mint has been duly debited with the full Stock Value of the apparatus, I presume that when the Steam Engine is again restored to full working order it will be delivered to the Officer (Captain Winscom) now in charge of the Mint, and by whom it will doubtless be utilized in working the additional shafting or such other purpose as may be required. The property of portability, its most convenient quality as Department of Public Works Plant, is of course a useless characteristic for the stationary machinery of the Madras Mint.

I have the honor to be
Sir,
Your Most Obedient Servant
A. Ed Schalch Colonel.
Chief Engineer

Central Office of P. W.
Fort Saint George
3 June 1858.

Ed Ofcy

No 1369 P.W.D.

Extract from the Minutes of Consultation
Under date the 15th July 1858

Read the following letter from the Chief Engineer

(Here enter 3rd June/58 No 822 A)

1. In their letter of the 25th March 1858, No 75, the Mint Committee brought to notice that a steam engine originally belonging to the Public Works Dept, purchased for the service of the Mint, was received at that Establishment in a "thoroughly unserviceable state"; and they requested that it "should be returned to the Dept whence it came, and the cost debited accordingly." In a letter from the Acting Mint Master to the Mint Committee, dated 4th Feby/58, No 301, that Officer stated that the engine had been issued as new; that it had arrived from England some short time previously, and was used for a few days only at the Madras Exhibition, where it could not have

---

P.W. Works 1858 Depart.
No 1206.
From The Chief Engineer
To The Secretary to Government Public Works Depart.
Dated 3rd } June 1858.
Recd 4th }
No 822 A
Encls 2.
See Pro. 15th July 1858.
Submits the Report to Government required by Govt. Mins: Cons: No 800 of the 8th May 1858 together with a separate letter dated 20th May from Mr. Thompson, the Mechanical Engineer in charge of ... Steam ..., offers an opinion on the information now obtained from the system of separate Departmental Plant and Stores mentioned in Captain Gulis' Despatch No 451 of 20th February 1858 and recommends

recommends that the repairs of the Steam Engine may be sanctioned for immediate execution.

No 2.

8.

sustained any material deterioration; and that it was evidently therefore an old Engine when it was sent out. In a letter of older date (15th July/57, No: 83), Lieut Col T. C. Cotton remarked to the Chief Engr, that the condition of the boiler led him to think that it must have been used for some time in England, and sent out when considered unfit for use there. He added that it was impossible to suppose that the lime deposited one tenth of an inch thick upon the tubes, and heated when the bottom, could have been formed in the few days the Engine had been worked in this country; that he could not believe that the boiler would have been so utterly destroyed, either while in work, or when in store, as to be actually eaten through by rust; and that he had no idea where the engine had been purchased, but it had every appearance of having been sent out with water from a filthy

× E. In. C. Civil Dept, 8 April/58, No: 235.
E. M. C. P. W. Dept, 8 May/58, No: 890

horse pond in England, and after having thrashed the corn of a Parish or two, sold for export to India.

2. On such information being placed before them, the Court called upon the Chief Engr to submit a report on the state of the Engine when he received it, the use it had been put to in the interval, and its present condition, for communication to the Honble Court of Directors.

3. From the papers now received from the Chief Engr, the Court appear to have that he took the judicious step of appointing a professional Committee, to examine and report upon the condition of the Engine. This Committee consisted of Capt Orr, the Acting Supt Engr of the Northern Circle, as President, and Capt P. O'Connel Assistant to the Chief Engineer, and Mr. Hankinson and Mr. Hockhart, Mechanical Engineers, as Members. Their Proceedings are submitted; and from

thems, as well as a separate letter from Mr. Henrikinsen, the first learn that the boiler was found by the Committee to be in a very unserviceable state; the greater part of the casing having been destroyed by rust, the surface of its plates under the fire and smoke boxes so oxidized as to readily exfoliate in thick flakes, and several of the heads of the rivets broken off; while the inside of the tubes and bottom was encrusted with a deposit of salts from one tenth to one eighth of an inch in thickness. But the condition of the boiler is attributed by the Committee, to the circumstance of its having been allowed to remain, ~~exposed to the weather, for it was found that in the Engine, especially considering the condition of the~~ completely exposed to the weather & not cleaned or oiled working parts of the engine, which were detached from the boiler, under cover

Boilers are ~~not~~ perfectly serviceable. ~~the encrustations found on the tubes~~

in the tubes and bottom of the boiler might have occurred from ~~to the effect probably of~~ only a few days work with salt or very brackish water, if no care were taken by frequent blowing off and occasional emptying, ~~to prevent encrustation of salines or earthy matters within the Boiler.~~ The Committee distinctly record their opinion, that the injuries sustained by the engine have been the result of mismanagement since its arrival in this country, and that there was nothing to support the opinion that it was not new when despatched from England.

4. In his separate letter, Mr. Henrikinsen furnishes the result of his personal knowledge of the Engine, and the usage which it had been subjected since its arrival from England. He reports that he worked it with satisfaction at the Arsenal in the beginning of 1856; that it was afterwards sent to the Madras Exhibition; and that on its return to the Arsenal, it

was in "a most disgraceful state both with dirt and rust." Mr. Thornburn adds that he suggested the cleaning of the Engine, but that it was allowed to stand in the Arsenal Yard exposed to all weather, after which it was sent to the Mint, the incrustation however, in his belief, having taken place at the Exhibition, for want of proper care in blowing off and washing out, and not allowing the Fire, Cold &c. to settle after each time of working.

5. The Chief Engineer disclaims all connection with the Engine in question, as regards having applied to its return to Store as part of the property of the Public Works Dept, and recommends its repair and restoration to the Mint.

6. It is very clear from the Committee's report, and more especially as from Mr. Thornburn's [illegible] the Engine did come

Mr. Thornburn not only saw the machine on its arrival, but he worked it himself. So far therefore, Col. T. C. Cotton must be wrong in the opinion expressed by him, that the engine could not have been a new one when it was imported into this country. It is also clear from Mr. Thornburn's personal observation, that it was not properly cared for at the Arsenal after its return from the Exhibition, and was sent to the Mint generally rusted, with the boiler encrusted with salt, and utterly unfit for use. The Engine however seems to have sustained no serious damage after all, for the Committee believe that the engine, tho' at present unserviceable, may with little labor and no great expense, be put into thorough working order at any ordinary workshop." In accordance however with a proposal of the Acting Mint Master, separately conveyed,* the necessary orders have been already issued to the con-

* From Mint Committee, 12th May/58 No 97.
Mint E. M. C. 22d May/58, No 339.
Do E. M. C 11th June/58, No 1106.

of the Engine at the Dockyard Khana. Kaun Workship; the cost of the Repair being borne by the Mint, and the engine itself restored to that Establishment on its return from Enlaishmaun.

7. Col Faber has taken this opportunity of recurring to the advisability of initiating a system, as in Bengal, of making the Public Works Dept answerable for the safe custody of its own Stores, but no orders can now be issued on this subject, as a reference is before the Govt of India at the instance of the Chief Engr himself, asking for information as to the means at the disposal of the Chief Engr of the Lower Provinces in Bengal, for landing, taking care of, and issuing, Machinery and Stores belonging to the Public Works dept.

The Govt recommend that the papers be the subject of Ordinance for any explanation he may have to offer as to the causes of the

To Govt of India, 22d June/58, No 1178.

10 Cobbs to the Offg Chief Engr Dated 16th 4 — " — Inspector Genl of Ordnance (Recd)

Public Works 1853 Departt
D.J to Cous. 21st July

C.S.P. 1864.

Extract Minis. of Cous.
D.J 15th July 58.

From the Inspector Genl of Ordnance
and Magazines 3 Aug. 1858 J.33
in Corr. 4 pt.

Passing observations on
the report of a professional
Committee appointed to examine
and report upon the Construction of
the Steam Engine at the Mint and
observing that the services of a Fitter
have been already found for
the repairs of the Engine at
Dowlishwarren workshops

No 22 & 23.