

Educational (1898) Department.

ORDINARY MS.

G.O., No. 340

Dated 7-6-98

INDEXED

11-10

[Despatch Abstract.]

Approving the proposals of the D. I. for the purchase of an oil engine and a gas engine for the workshops of the College of Engineering, and for the disposal of the existing steam engine and boiler, and informing the P.W.D. that the extension of the workshops sanctioned in S.O. No. 1634WD/14-6-97 is not necessary.

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7-6-98

BACK PAPERS.

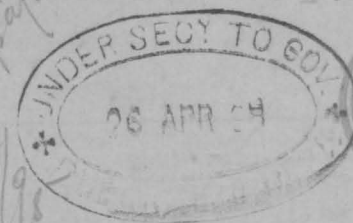
G.O.	No.	Department.	Date.	G.O.	No.	Department.	Date.

FURTHER PAPERS.

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

Educational (1898) Department.

CURRENT No. 560



From The Dir of Public Instruction
Madras.

In Orders.

The proposals of the D.P.I. may be sanctioned and the P.W.D. be requested to be informed that the workshop extension No. 4741 is not necessary. I cancel their order No 1634 W & 14697. Dated 25 April 1898.

Received 26th April, 98

Registered 26th April, 98

Enclosures 1711

Spare copies —

SUBJECT.

Requesting the early sanction of Government for the purchase of an oil engine and a gas engine for the workshops of the College of Engineering & for the disposal of the existing steam engine & boiler.

D.O. Ed.

To The President, Principal
College of Engineering
Madras

My dear Davidson,
I am directed to ask you if you could send a pamphlet or handbook on oil engines & gas engines for perusal. It will be returned in due course.

Yours sincerely

S.S.R.
7.5.98

1/18
27/4/98

BACK PAPERS.

G.O.	No.	Department.	Date.
	R167-8	Ed	7-4-88
	388	'	12-7-87
	209	'	10-4-87
	104	'	23-2-87
	925	'	11-12-87

FURTHER PAPERS.

G.O.	No.	Department.	Date.

Ed sept

D.O.

My dear Davidson,

I am directed
to return with thanks the
copy of Mr Robinson's book on
gas and petroleum engines
received with your D.O. of
the 19th instant.

SGR
1-6-88

28/6/88

copied
28/6/88

Note-

To be stitched with
order on cno 560998

To J. P. Davidson Esq. (with book)
By Principal College of Eng.
Sept 1/6/88

Ena to DP9's letter
No 4741
25/4/98

College of Engineering
Madras, 16 March 1898.

To

The Principal,
College of Engineering
Madras

The fact that oil gas works have been setup in Chepauk for the Presidency College and that in a short time a supply of gas will be available in our workshops very materially alters the conditions under which we can carry on work. At present our source of motive power is a steam engine supplied with steam from a portable boiler of the locomotive type. At the time the workshops were started, there was no other method of getting power to drive the machines available and we had to put down the steam engine. For a college workshop it is subject to several very serious disadvantages as compared with a gas engine. (1) It can only be used if steam is got up several hours beforehand. (2) It is too costly to run except about once a week. (3) It requires a special attendant to look after it. (4) The engine and boiler take up a large amount of space.

On the other hand a gas engine possesses the following advantages. (1) It does not take up much space. (2) It can be used without any previous preparation. (3) The expense of running it is exactly proportional to the number of hours run whether they be few or many. (4) Consequently it could be run every morning from 6.30 to 8.30 when the students are in the workshop and at any other time when power is required. (5) It does not require a special attendant to be in sole charge of it. (6) It gets rid of smoke and dirt in the park which is a not unimportant consideration.

Further an estimate amounting to Rs 7153 has been sanctioned for extending the College Workshops to the South solely because objections were raised by certain individuals to the present position of the steam engine. If we abolish the steam engine and substitute a gas engine, these objections totally disappear and it becomes unnecessary to incur the expense of making an extension to the South, the cost of which is out of all proportion to the advantages gained.

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12-7-97
Pg B.

The saving thus effected would pay for the gas engines required at least twice over. The only disadvantage entailed by this proposal is that we shall not have in the College Workshop a steam engine and boiler which can be used to a certain extent in illustration of the lectures on the steam engine and on mechanism. On the other hand we shall have a gas engine, and if my plan is adopted, an oil engine which can serve nearly as well for educational purposes. The course I wish to suggest is that we should sell or otherwise dispose of the present engine and boiler - they will probably fetch Rs 1500, and in their place we should put down a gas engine of $6\frac{3}{4}$ effective horse power which will cost about Rs 1750, and an oil engine of $6\frac{1}{2}$ Brake horse power which will cost Rs 2600. About Rs 1000 will also have to be spent in altering the foundations and shaftings so that the total cost of the change may be put down as Rs 5350 against which there is the saving of Rs 7153, the estimate for the extension already sanctioned and Rs 1500 from the sale of the

engine making a total saving in all of
Rs 3303. The reason I have proposed to put
down two engines one worked with oil
and one with gas is (1) that we might
have both engines in the shops as
examples from which to draw illustrations
when teaching students. (2) a $6\frac{1}{2}$ H.P.
engine is of sufficient power for the
greater part of the time and both oil
and gas engines do not work very
economically when running at half
power. (3) If the gas supply at any time
temporarily failed, it would cause but
little inconvenience if we had an oil
engine.

If however the proposal is not
approved of having two engines, then
I would suggest that one gas engine
of $10\frac{1}{2}$ B. H. P. be procured at a cost of
Rs 2400 + Rs 600 for foundations and driving
pulley making the total cost Rs 3000
and effecting a total saving of Rs 56 53.

I have already submitted an indent
for a gas engine of $6\frac{1}{2}$ H.P. which should be
cancelled if the latter proposal proves
more acceptable. Personally I have no
decided opinion in favour of either

alternative. The latter proposal is the
cheaper and in some respects the better,
but it leaves us entirely dependent on
the Presidency College gas works and it
will involve rather more expense in
working as it is not often we require $10\frac{1}{2}$ H.P.,
but at times we certainly do. I do not
anticipate that the change from steam
to gas and oil as a source of motive
power will effect any reduction in
the cost of running the workshops; but
I am quite certain it will enormously
increase their efficiency and when
the artisan students are under train-
ing the output of useful work.

Styren Chatterton
Professor of Engineering

CURRENT

No. 560

OFFICE OF THE DIRECTOR OF
PUBLIC INSTRUCTION,
Madras, 25 April 1898.

No. 4741

From D. DUNCAN, M.A., D.Sc., LL.D.,
THE HONORABLE MR. DIRECTOR OF PUBLIC INSTRUCTION,
Madras,

To to Government
The Secretary Educational Department.

SIR,

enclosed note from the
In the Engineering College of Engineers
Professor of March 1898, the advantage
dated 16th workshop of having a gas
to the College oil engine in place of
engine and steam engine and boiler are
the present stth, and I am further
clearly set for the Principal that the
informed by has given trouble from
existing boiler owing to some chemical action
the outset of whose

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T. 21/5/11

whose cause is obscure. In consequence, the Professor of Engineering and the Principal, College of Engineering propose that the present steam engine and boiler be disposed of and that the workshop be supplied with a gas engine of $6\frac{3}{4}$ horse-power and an oil engine of $6\frac{1}{2}$ Brake horse-power. Messrs. Massey & Co. have since offered to purchase the steam-engine and boiler for Rs 1,500, which it is considered, is a very reasonable price and to supply the College workshop with a Hornsby Akroyd oil Engine of $6\frac{1}{2}$ B.H.P. for Rs 2,970 which include the cost of removing the steam engine and of erecting the oil engine. I beg strongly to recommend that the above proposals be approved and sanctioned and that Messrs. Massey & Co's offer be accepted at a very early date. I propose to meet.

3000

1000

1400

Rms 168
7-4-98

388 54
12-7-97

From the provision made in the budget ^{estimate} establishment for 1898-99 for Europe stores	500	Rs meet as in the margin the extra cost of Rs 1470 involved by Messrs. Massey & Co's proposal
Do for College workshop	500	
General savings under contingencies for the college	470	
	<u>1470</u>	The cost of

The gas engine which has been included in the College Annual indent recently submitted to Government will be met from the allotment for Europe stores in the sanctioned Budget.

2. The sale of the steam engine and boiler will render unnecessary the extension of the College workshop estimated to cost Rs 7,153 sanctioned in G.O. No. 1634 W, dated 14 June

T 21/5/98

June 1897 communicated with
 G. O. No 388 Educational dated May 13
 12th July 1897. So that the proposals
 herewith submitted are expected
 to result in a net saving to Govern-
 ment of not less than Rs 3500
 as shown below:—

Oil engine with cost of erection &c	Rs 2970
Gas engine	1750
Probable cost of erecting the gas engine on arrival &c	433
	5153
Saving from stopping the workshop extension designed to accommodate the existing steam engine & boiler	7153
Sale proceeds of the above Steam engine & boiler	1500
	8653
Net saving	3500

3. I beg to request that early
 orders be passed on the above proposals
 as

as I understand that Messrs. Massey
 & Co who have offered to take
 the steam engine and boiler for
 Rs 1500 will not be able
 to let this offer stand over for
 a long time.

I have the honour to be,
 Sir,
 Your most obedient servant,
 J. G. Munro
 Director of Public Instruction

W^m
 1.2.97

200 Home

College of Engineering

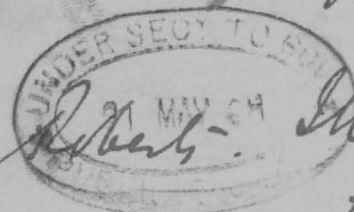
MADRAS,

11/2 -

Ed.

19/17

1896.



Dear Sir - I have been for
seeing Mr. - I mean to
attend to your letter
I now send the only book
on the subject apparently
available in the library.
Please return it when
done with. Yours truly
H. D. D. D.

[G
24]

500-16-5-08.

P

Ed DEPARTMENT.

Papers to be read in Proceedings:—

Again G.O., dated

189 , No.

Again G.O., dated

189 , No.

Current No. 560

of 1898, dated 25th April, from the D.P.I.

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" 189 , "

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" 189 , "

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ORDER. No 340 of 7-6-98
mis

The proposals of the D.P.I.
are approved. ~~and~~ the P.W.D.
will be informed that the
extension of the work shops of the
College of Eng. sanctioned in G.O.
no 1634 W & 14th June 1897 is
not necessary.

(from orders)

2/6
2/6
1.6.98

St

To
The D.P.I. 940
P.W.D. at

P.W.D.

as

When given for copying 7/6
 When copied 8/6
 When examined 10/6
 When signed _____

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READ AGAIN G.O., No. _____
 1898

DATED

CURRENT No.

VOLOSURES TO O. No.

ORDER OF GOVERNMENT

LETTER OF GOVERNMENT.

MENT WITH DITTO.

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 IN ORIGINAL.

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- Q = Copy head

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