

(1) Number of pages_____

(2) Date of repair_____

(3) Initials of the Referencer_____

MADRAS RECORD OFFICE

Government of Madras

Public Works

DEPARTMENT

G.O. No. 2433
B.P. No.Press
Mis.*Original*

Dated

13-9

1876
-195-

Not to be folded or roughly handled

*Proceedings of the Madras Government, Public Works Department,
13th September 1876. No. 2,433.*

Read the following papers:—

No. 175. Proceedings of the Madras Government in the Military Department, dated 4th December 1875, No. 6,027.

ABSTRACT.—Approving an estimate for a drying-room and scalding trough for the Armourers' Workshop for the Native Infantry Regiment at Mangalore.

No. 175-A. From A. C. LAWFORD, Esq., District Engineer, South Canara, to Colonel W. FAREWELL, Officiating Deputy Chief Engineer, Public Works Department, dated Mangalore, 11th March 1876, No. 88.

In reply to your memorandum, No. 299, dated 11th February 1876, returning the plan and estimate of the "construction of a scalding trough" at Mangalore, I have the honor to return it duly revised as pointed out with the necessary specification, and to explain that the work being the adaptation of an old building, it is not possible to adhere strictly to the dimensions of the standard plan. I also beg to explain that reference has been made to the plan which accompanied G.O., No. 624, of 4th March 1875, and not to that which is said to have communicated with G.O., No. 2,520, of 4th September 1875; for, on inquiry with the Head Clerk, I learn that the latter has never been received in this office. Mr. Castetino being very attentive and careful in the discharge of his duties, I have no doubt of the correctness of his statement.

2. The Military Authorities *term* the forge-room a *browning-room*, which would seem more correct, but, as the work is one with which I am not acquainted, I have deemed it advisable to adhere to the nomenclature of the standard plan.

No. 175-B. From A. C. LAWFORD, Esq., District Engineer, South Canara, to Colonel W. FAREWELL, Officiating Deputy Chief Engineer, Public Works Department, dated Mangalore, 5th May 1876, No. 11.

In returning the accompanying plan and estimate for the Armourers' shop at Mangalore to provide a scalding trough, &c., I have the honor to inform you that the standard plan referred to in G.O., No. 2,520, of 4th September 1875, was only received the other day.

2. The amount of Rupees 200 for that portion of the iron work is absolutely necessary, as it must be obtained from Bombay, and Messrs. Nicols' charges will be Rupees 160, the additional sum being allowed for freight and fixing.

No. 175-C. From E. H. PRINGLE, Esq., District Engineer, South Canara, to Major-General G. W. WALKER, R.E., Chief Engineer, Public Works Department, dated Camp at Beltangudy, 26th August 1876, No. 43.

In submitting a revised plan and estimate for converting portion of the gunshed at Mangalore into a drying and forge-room for the Native Infantry Armourers' shop, I have the honor to state that, from the pencilled remarks on the former plan*

* Herewith resubmitted.

returned me with your docket, No. T-331, dated 1st June 1876, I am led to believe

*Proceedings of the Madras Government, Public Works Department,
13th September 1876. No. 2,433.*

that you are under a slight misapprehension regarding the requirements of the regiment.

2. This has arisen from the omission in the former plan of details, which should have been entered and which are now supplied in the revised plan. It will be seen that the east end of the building had already been fitted as an Armourers shop, so that all that is required is the forge-room and drying-room.

3. Both these rooms have now been located in the gunshed, and the standard plan has been adhered to so far as the exigencies of the place will admit. The western room has not been utilized, as the accommodation is in excess of the standard plan.

4. In the Armourers' shop additional arm racks have been placed, as the existing stand do not come up to requirements.

5. In reference to paragraph 2 of your letter above noted, I have the honor to say that the work was sanctioned in the Military Department in G.O., No. 6,027, of 4th December 1875, after approval by the Commander-in-Chief, and it was therefore considered unnecessary to submit the revised estimate, which merely differed from the original in matters of engineering details. Under similar circumstances, I now submit the third revised estimate direct. It will be observed that there is a saving on the last estimate.

No. 176. ORDER THEREON, 13th September 1876, No. 2,433.

MILITARY WORKS, No.4.

(a) *Heads of Service.*—Imperial.
Fund.—Ordinary.
Class.—Original Works.
Main-head.—Military.
Sub-head.—Military Buildings. Accommodation for Native Infantry.
Name of Work.—Converting portion of gunshed at Mangalore into a drying-room and forge-room for Armourers' shop for the Native Infantry.
Amount.—Rupees 600.
To be carried out by the Public Works Department.

THE estimate of Rupees 600, for adaptation of a portion of the gunshed for a drying-room and a forge-room for the Armourers' shop of the Regiment of Native Infantry at Mangalore, is sanctioned.

2. There are no funds at present available.

3. This sanction has been registered as Imperial No. 81-W. of 1876-77.

(True Extract.)

Colonel,

Offg. Under Secy. to Govt., P.W.D.

To the District Engineer, South Canara.
" Examiner of Public Works Accounts.
" Military Department.

Exd. E. C. Shunker.
Spare Copies

*Proceedings of the Madras Government, Military Department,
4th December 1875.*

Barracks and Buildings—Workshops.

Read the following letter:—

No. 128. From Brigadier-General A. HOWLETT, C.B., Quartermaster-General, to Colonel A. C. SILVER, Secretary to Government, Military Department; dated Fort Saint George, 1st December 1875, No. 7604.

Enclosures 4. (1 Plan.)
Amounting to Rupees 500, for drying-room and scalding trough for the Armourer's Workshop for the Native Infantry Regiment at Mangalore.
Letter from the Officer Commanding Mangalore is enclosed, requesting that, as only Rs. 100 are available for the work from the current year's allotment at the District Engineer's disposal, the sanction of Government may be obtained for the balance, Rupees 400.

The Commander-in-Chief having approved the estimate marginally noted, I am directed by His Excellency to submit them for the consideration and orders of Government.

2. If approved by Government, it is requested that the papers may be forwarded to the Department Public Works for disposal.

No. 129.

ORDER THEREON, 4th December 1875, No. 6027.

Approved.

(True Extract.)

[Signature]
Secretary to Government.

To the Public Works Department, with four enclosures, and 10 spare copies.
" Quartermaster-General.

Approving an estimate for a drying-room and stabling trough for the Armenian's Working for the Native Industries Department at Mianeh.

DECEMBER.

*Encl. No 299 d/11th Feb 1876
1st June 1876*

*Pd 11/18 7/5 20/4-50
910 7849*

PROBT. OF (1875) BRADYNS.

MILITARY.

THE PUBLIC WORKS DEPARTMENT.

EC,
NC,
AC.

Dated December, 17.
87

Encl. 4 *Sell*

№ 175

Despatch 6-0-7-9-26.

The District Engineer
South Carolina
The Offg. Dy. Chief Engineer
D. P. W. Adams

In reply to your Memo No 399,
11th February 1876, retaining the
said Estimate of the "Construction
along trough" at Mangalore,
the honor to return it duly
as pointed out with the
Specification and to explain
the work being the adaptation
old building it is not possible
strictly to the dimensions of
standard plan. I also beg to
that reference has been made
plan which accompanies G.O.
11th March 1875 and not to
which is said to have communicated
G.O. No 2520 of 11th September 1875
congruency with the Head Clerk. I
that the latter has never been
in this office. Mr. Castles
being

1875

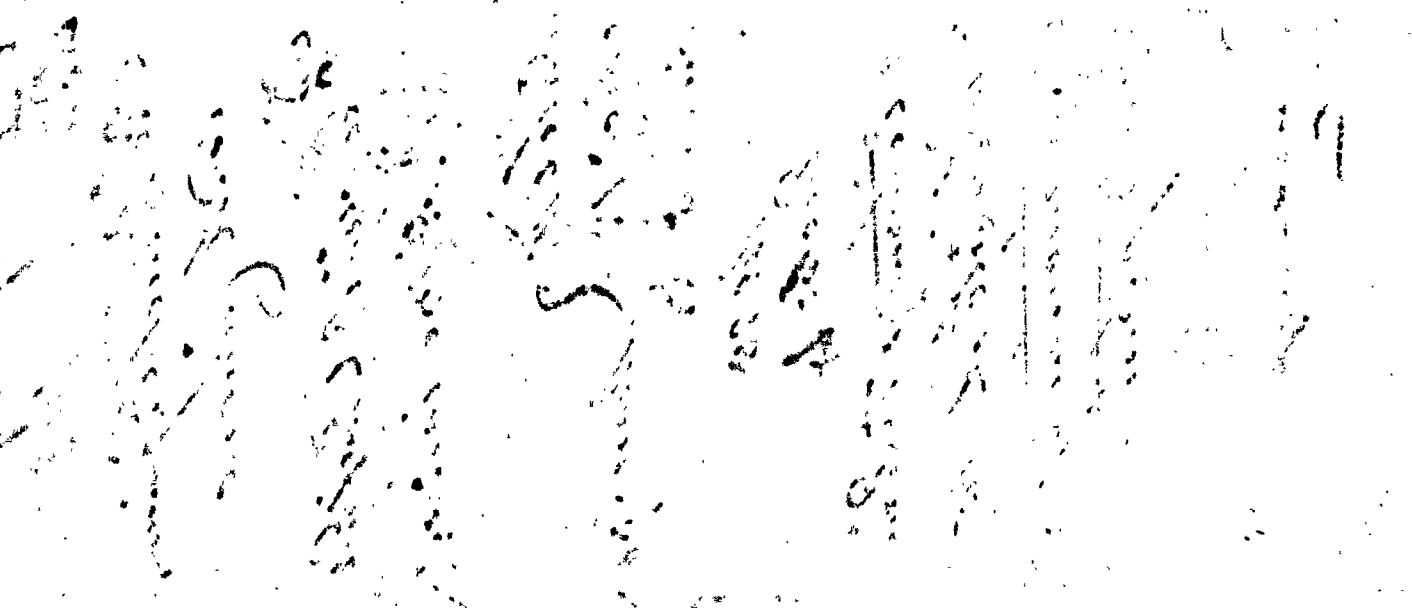
being very attentive and careful in the discharge of his duties, I have no doubt of the correctness of his statement.

2. The Military Authorities term the Forge Room a Bronzing Room which would seem more correct but as the work is one with which I am not acquainted, I have deemed it advisable to adhere to the nomenclature of the Standard Plan.

I have the honor to be
your most obedient
servant

W. Macpherson

District Engineer
South Canada



ES.

of

Chelidonium

[illegible]

11-11-68

100

Journal of Management Studies, 20(6), 791-806.

10

CASES.

No. of 187 .

”

”

”

Figure 1. The effect of the concentration of the *Agrobacterium* suspension on the transformation efficiency of *Agrobacterium* strains.

Figure 1. The effect of the concentration of the *Agrobacterium* suspension on the transformation efficiency of *Agrobacterium* strains.

[illegible]

Figure 1. The effect of the concentration of the solution on the rate of the reaction.

Age Group	Percentage
18-29	85%
30-49	80%
50-69	75%
70+	70%

№ 175-00

76.10.10

4-13-5-16

of 1

•

•

22

7-8-76

Dec-13-5-16

Current No. 1980

From

The D. C. Spawana

No. 88

Dated

Recd. 18

March 1876

Chngs No 63 d/ 1-4-76
" " 331 " 1-6-76.

Subject:-

Returning plan &
Set for a scalding trough
at Mangalore duly revised
as requested.

ENCLOSURES.

4 returned

From

to

"

"

"

Orders and Proceedings in file.

Depart- ment.	No.	Date.	ENDORSEMENTS.		
			Depart- ment.	No.	Dated.
Plod.	733	15 June 1872			
"	624	4.3.75			
"	2520	4.9.75			
Chng	299	11.2.76			

The Province. No 259-

Mangalore 19th Nov 1875

From

Colonel M. S. French
Commanding Mangalore

To

The Quarter Master General
Fort St George

Sir,

I have the honour to
state that I am forwarding for sanction
a Plan and Estimate, amounting to
Rupees 500, for the proposed drying room
and scalding trough for the Artillery's
workshop at this station, and to request
that, Rupees 100 only being available
for the work, from the current year's
Allotment at the District Engineer's
disposal under the head "Minor New
works Military", you will solicit His
Excellency the Commander in Chief to obtain
the balance vizt Rupees 400 from Government.

I have the honour to be

Sir,

Your most obedient Servant

Thos French

Colonel
Commanding Mangalore

Recd Quarters Mangalore
Commanding 28 Nov 1875
M. S. French
Colonel
Commanding Mangalore

1
 Memo No 299.
 The plan & estimate submitted for certain additions to the Armourers shop at Mangalore gives no idea of what the additions estimated for consist of, and the dimensions of every portion of this plan differ from the standard plan communicated with Memo 2520 of 4th Sept 75, very considerably. The offg. S^t. Engineer's attention is called to para 7 Chapter II of the Madras S. N. Code. All additions and alterations should be shown in different colors from the original work.

The estimate heading is simply for constructing a scalding trough while its body shows that the additions of a room or rooms is also contemplated. The names of the rooms are not given on the plan. The dimensions of all additional rooms should be in

21/10/75
 299

1875

The Commr
 The Offg. Commr
 of Mangalore
 The Offg. General
 of the Madras
 S. N. Code

Mangalore 19-10-75
 The Commr
 of Mangalore

The Commr
 of Mangalore
 The Offg. General
 of the Madras
 S. N. Code

Mangalore 19-10-75
 The Commr
 of Mangalore

accordance with those of similar
rooms in the standard plan. As
specification accompanied these papers.

The plan and estimate are
herewith returned to the D^r. Eng^r.
who will be so good as to revise
them as directed above, and re-sub-
mit them at an early date.

It is observed that the rate charged for latents in Chunnani is one Rupee per 100 cubic feet in excess of the 8th schedule which should be noticed.

By Order/
Signed H. Farewell
11. Leley 1876. Off. Dy. Chief Ins.

Co. The 2^d Regt South Carolina
with 3 En.

3407. $\frac{1}{2} \sqrt{2}$ 2 140 0

Jan 1950 / No 631 d/4/10/76
Lucia Copied 1980
 Letter to D.D. dated 11 March
 1975 from the Sub Secy
 ✓ Lucia.

As the Plan still shows
an arrangement for
a forge and Stove
is not in accordance
with the requirements
of the Standard plan
in regard to fixtures
be - The Plan & Est.

which accompanied
the 5th letter is
currently returned
for revision
with reference to
G.O. no ~~29~~ 2520
dated 4 Sept. 75.
a copy of which
with standard plan
is now supplied.

609 - 31376 Wt
D.S. Canara with 2. Encl. 1.24.70

11/12/2
 The foundation
 the seats for furnace
 all

102437973/11/17

The enclosed letter
 with accompanying
 blank letter are herewith
 returned and the said
 signature is requested to
 with reference to the
 standard place to
 service letter to the
 said signature
~~in accordance with~~
~~the provisions~~
~~under the~~
 and to be sent
 through the office
 as early as practicable
 Distribution is
 taken to the various
 offices in the
 said signature to the
 Order of the
~~the various~~ direction
 to all places
 & instructions from
 the various
 before the
 to the
 with the
 approval of the
 C. J. Clark

seats for furn

accordance with the

Read letter 8.

Read letter Number 88.

dated 11/29/70 H. H. H. 11/29/70
C. from 11/29/70 District Engineer of the Bureau

3407 Here enter

Read letter C. H. H. H.

It may be that cer-
tain papers are
req^d for diploma
of this, in which
case they sh^d be
sent for - the
papers referring
to cases under re-
ference were
sent up is not
understood -

The subject sh^d
be exhausted
before being laid
before Govt; as
present it is in
very crude form.

Comparison with
the Standard
Plan shows a
very small
Workshop, and
very large Drying Room
as referred to.

Standard is shown the seats for furnace.

and furnace flue are to be of latite in
chumam. The dimensions and positions shown
in the plan and estimate are to be strictly
adhered to. Each course is to be laid with
due regard to bond, and all new work
is to be carefully bonded with old masonry,
bond stones entering 3" in the case of
pillars and 4 1/2" in walls. All latite
stones are when trimmed to be of the
usual dimensions 18" x 9" x 6" square such
as are used for breaking bond. The
latite must be of good quality, homogeneous
and free from excess of earthy matter. All
mortar used is to be composed of 1 part
lime and 2 parts river sand with the
usual admixture of gagers & fall nut
water. Excess of water is to be avoided.
The lime to be of shell or coral well
burnt, and slaked within 48 hours of use.
Sand to be clear & coarse, and thoroughly
mixed with the lime. All mortar stand
over 48 hours from the time of slaking
the lime, to be discarded. Courses of masonry
to be strung & levelled & kept vertical
by the frequent use of the plumb line.
Mortar joints not to exceed 1/4" in thick-
ness. All stones used to be cleaned from
dust

Brick in Chumam.

13
dust being swept by flat iron
before laying. The masonry is to be
The superstructure of the furnace and
for furnace flue is to be of brick in Chumam.
The dimensions are to be those given in
the plan & estimate. Careful attention to the
bond is to be given as well as to the levelling
& plumbing of courses. Mortar joints
are not to exceed 1/4" and the preparation of
the mortar is to be as detailed for latite
in Chumam. Bricks are to be table
moulded, of dimensions 8 3/4" x 4 1/4" x 2 3/4",
bright in color and possessing a clean
metallic ring. They are not to absorb
more than 1/4" their weight of water &
not to exceed 7% in weight. All bricks
are to be saturated with water before
laying, and if the weather is very dry
the masonry is to be watered for three
or four days after completion.
The course next the furnace is to be
set in plastic clay instead of chumam
& the same precautions as specified
above are to be adopted. The clay used
must be carefully freed from admixture
with pebbles, or organic matter.
Archwork. The archwork over openings and over

over bellows & doors to be carefully extended
in latents in chumam of the dimensions
shown in the estimate and plan. Arches
over doors and windows are to be segmented,
the radius equal to the length of soffit in
each case, & all joints radiating truly
to the center.

The portions of walls & main &
cross forge beds of furnace & flue &
chimney, shown in the estimate for plaster-
ing are to receive one coat of plaster
formed of 1 part lime to 1 1/2 parts white
river sand. The before specified precau-
tions regarding sand and lime are to be
observed. All masonry joints are to
be raked out 1/2" deep before taping on
the plaster. The walls &c are then to
be freely watered to remove all dirt
and dust & the plaster to be laid on
evenly to a thickness of 1/2" & brought
to a level surface by wooden rubbers.
Care is to be taken that the surface
is not so smooth or polished as to
interfere with the adhesion of lime wash.

The composition of lime wash is
to be as follows:

One sack of raw rice is to be boiled
down

Plastering

equal. Ground rice is to be added
down to a clear starchy mass, when
cold add 1 part of freshly slaked shell
Chumam, adding water if necessary to bring
to proper consistency. Two coats of this
are to be laid over the plaster, the latter
being thoroughly dampened previously.

The bed for flooring is to be of
gravel well tamped & brought to a level
surface 4" beneath floor level. Rammers
for this purpose are to be used 36 square
inches & not to weigh less than 25 lbs. Over
this when settled 3" of concrete composed of
clean latente gravel set in chumam, 3 of the
former to 1 of the latter well tamped &
brought to a perfect level. On this bed are
to be set rectangular paving tiles 12" x 12" x 1"
in Portland Cement, the joints being as fine
as can be. The tiles are to be well burnt
with sharp edges & to weigh about 14 lbs each.
Similarly to the bricks they are to be wetted
before laying in. The work consists of barrel
racks in the drying room, additional
arm racks in the armory & bellows
frame and lever. These are to be according
to dimensions given in plan & estimate.

Wood

Wood used is to be well seasoned Baupé
free from flaws & sap wood & carefully
wrought joints of arm & barrel each to
be mortise and tenon & all fastenings made
by screws. The lever of the bellows to
work on a strong steel axle $\frac{1}{2}$ " diameter
& to be supplied with a wrought iron bush.
The inner sides of the grout in the frame to be
lined with sheet iron $\frac{1}{8}$ " thick.

These are to be double shuttered, plain
bottom, & cross-baired, supplied with ordinary
locks, bolts & fastenings & hung on 6" butt
hinges & secured by counter sunk in the frame
of door. Battens to be $1\frac{1}{4}$ " thick rebated
at joinings, bars of $1\frac{1}{4} \times 1\frac{1}{4}$ " section & placed
1" in centre of shutter, and remaining two
6" from top and bottom. Frames of section
 $6\frac{1}{2} \times 3\frac{1}{2}$ " to have the ends of sills & lintels
built into masonry of wall & on either
side, also to have joinings mortised and
treenailed.

Windows are to be glazed, opening
inwards with double shutter & paneled
each shutter and central wooden bar 5×3 "
section mortised into frame. Frames to be
built into masonry similarly to door
frames & to be of section 5×3 ". Joints of
frames to be mortised & treenailed
externally

Windows

externally, iron round bar $\frac{3}{4}$ " diameter and to
be secured to masonry is separate from Centre
to Centre.

Ironwork. Chain for bellows lever is to be $\frac{3}{8}$ " diameter
Capable of proof strain 25 Cwt & to be fastened
to bellows & lever by pivots of $\frac{1}{2}$ " diameter.
The furnace flue is to be constructed according
to plan & estimate of good wrought iron $\frac{3}{16}$ "
thick, properly rivetted. The plating over
furnace is to be of iron $\frac{1}{4}$ " thick supported on
bars $\frac{3}{8}$ " thick. The cistern is to be $\frac{1}{2}$ " thick
& the plate over chimney $\frac{1}{8}$ ". These are all
to be placed as shown in plan.

Concrete similar to that laid for flooring
is to be placed over the chimney as shown
in the plan.

Shed is to be carefully done so as not
to damage the surrounding masonry.

A coat of wood oil is to be applied
to the frame work & shutters of doors &
windows except where there are in contact
with masonry.

Two coats of boiled coal tar are to be
applied to all wood work in contact with
masonry, also to all iron work.

All work not specified is to be
executed to the satisfaction of the Divisional
and

Tar.

Quantities.	Description of work.	Rates.			Amount.		Total.	
		Per	Rs.	A.P.	Rs.	A.P.	Rs.	A.P.
	Brought forward				355	7		
✓ 3	Windows each (3 x 4 1/2)							
	ironed & glazed inside	each	20		60			
✓ 3 1/2	8 ft Iron chains	8 ft		4		14		
✓ 523 7/12	Wrought iron work	lbs		35	11	120		
✓ 2 5/8	Cft Concrete	100	10			42		
✓ 48 3/4	Dismantling old masonry		18			88		
✓ 14 2/8	Cyds Earthwork	Cyds		2		112	9	
✓ 175 1/2	8 ft one coat of wood oil	100		12		15	1	
✓ 234 15/16	Coal tar			1		25	7	
	Carriage & fixing the iron chimney					40		
	Total Rupees				572	15	4	
	Sundries Superintendence at Rs 5					25	6	11
	Total amount of estimate					600		

South Canara H. Engineer's Office
Camp. Bellary
26th August 1876
Depo 31st Do Mangalore

Engineer
South Canara

5/9/76

South Canada H. Engineers Office

Camp. Bettanpady
214

26th August 1876

Depo 3/2 - 10 Mangaluru

~~5/9/26~~

P.W.D.

40276

No. 6232.

16

Abstract Estimate No. 6 of 1876-77.

D. P. W. South Canara District.

1876.

Work.

Adaptation of part of the furnace for a drying room and forge room for Ammer's shop at Mangalore.

Amount Rupees 600. -- ..

original work. Military. Military building.
Accommodation for 16 of 1876-77.
Detailed Estimate No. 16 of 1876-77.
South Canara District.

Work. Adaptation of part of the furnace for a drying room & forge room for Ammer's shop at Mangalore.

Detail of Work.	Number.	Measurements in feet.				Contents.	Total quantity of each description of work.
		Length.		Breadth or Thickness.	Height or Depth.		
		Each.	Total.				
<u>Foundations</u>							
Front wall of forge and drying room	1		16 1/4	2 1/4	1 1/2	146 1/2	
cross wall between	1		6 1/2	3 1/2	1	26 1/2	
Furnace	1		3 1/2	2 1/4	1	9 1/4	
Seat for flue	1		5 1/2	5	1 1/2	27 1/2	
Forge	1		5 1/2	5	1 1/2	30 1/4	
<u>Total foundations</u>							
						219 1/4	
<u>Basement</u>							
Front wall of forge and drying room	1		17 3/4	2 1/4	3/4	30 1/4	
drying room	1		14 1/4	1 1/2	3/4	16	
cross wall between	1		14 1/4	3 1/2	1 1/4	17 1/4	
Furnace	1		3 1/2	2	1 1/4	8 1/4	
Seat for flue	1		8 1/2	4 1/4	1 1/4	17 1/2	
Forge	1		8 1/2	4 1/4	1 1/4	17 1/2	
<u>Total basement</u>							
						88 1/4	
<u>Superstructure</u>							
Front wall of forge and drying room	1		19 1/4	1 1/2	10 1/2	312 1/2	
drying room	1		19 1/4	1 1/2	10 1/2	312 1/2	
<u>Carried over</u>							
						312 1/2	

Detail of Work.		Measurements in feet.				Contents.	Total quantity of each description of work.
Number.	Each.	Length.		Breadth or Thickness.	Height or Depth.		
		Total.					
Brought forward							
Cross wall between forge and drying room	1	15	1	10½	157½		
Gate over—do—	1	16½	1	2¾	46¾		
Forge	1	3½			30½		
Chimney to forge 1st part	1	3		1½	6½	29½	
—do— 2nd part	1	8		½	1½	6	
Total Superstructure. C.ft.						500½	
Decorations.							
Door in front wall	1	4	1½	8	48		
—do— in Cross wall	1	4	1	8	32		
Windows in front	2				15	45	
Seat for flue in cross wall	1	1		area 4	4		
Cistern in forge	1					15	
Vent in the Chimney	3		½	½	¾		
Segmental arch over door in front	1	5	1½	1½	11¼		
—do— do— in Cross wall	1	5	1	1½	7½		
—do— do— over windows	2	7½	1½	1½	16½		
Total decorations Cubic feet						112½	
Net total in Superstructure C.ft.						488½	
Archwork over doors & windows as per above details						35½	
Carried over						35½	

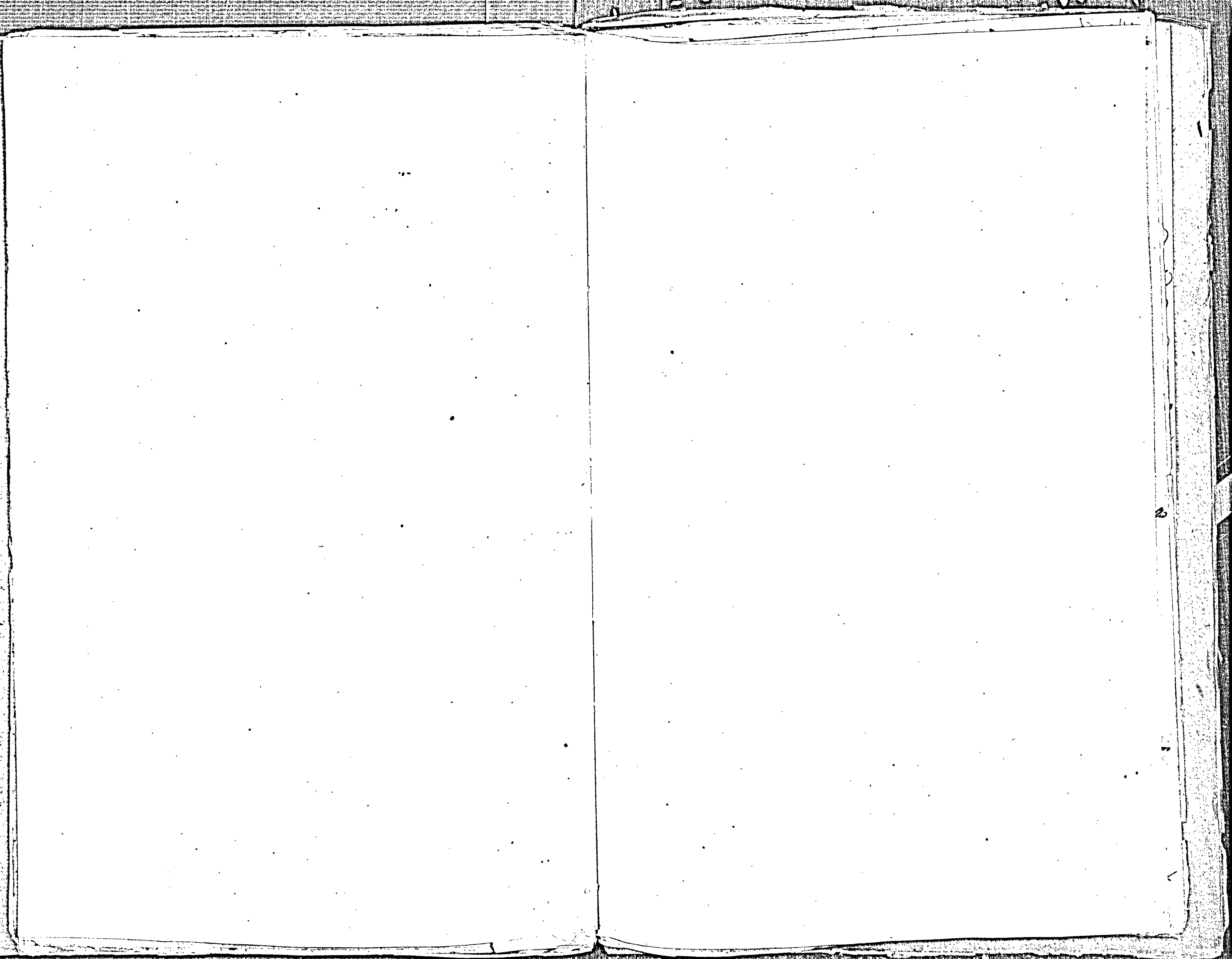
Detail of Work.	Number.	Measurements in feet.				Contents.	Total quantity of each description of work.
		Length.		Breadth or Thickness.	Height or Depth.		
		Each.	Total				
Brought forward						35 ⁵ / ₈	
Archwork over windows in the old masonry	1	3 ³ / ₄	1 ¹ / ₂	1 ¹ / ₂	8 ⁷ / ₈		
do — over bellows	1	5 ¹ / ₂	3 ¹ / ₂	1 ¹ / ₂	20 ¹ / ₂		64 ¹ / ₂
Total Circular archwork							
Brick in chimney	1	6 ³ / ₄	3 ¹ / ₄	1	25 ⁵ / ₈		
Seat for furnace	1	6 ¹ / ₂	3 ¹⁰ / ₂₄	2 ¹ / ₂	57 ¹ / ₈		
Seat for flue in drying room	1	4 ¹ / ₄	1 ¹ / ₈	1 ¹ / ₂	8		
Total Cubic feet					90 ⁷ / ₈		
Deductions.							
grate trough	1	1	1 ¹ / ₂ x 2 ¹ / ₂		3 ³ / ₄		
one layer of bricks in plastic clay in side of trough	1	15	3 ¹ / ₄	2 ¹ / ₂	21 ³ / ₈		
Flue	1	1 ¹ / ₄		2	2 ¹ / ₂		
Total deductions					43 ¹ / ₄		
Net brick in chimney						47 ⁵ / ₈	
one layer of bricks in plastic clay as per deductions. C.ft						24 ³ / ₈	
Circular archwork for flue in drying room	1	6 ³ / ₄	1 ¹ / ₂		11 ¹ / ₄		
Total Circular archwork						41 ¹ / ₄	

Detail of Work.	Number.	Measurements in feet.				Contents.	Total quantity of each description of work.
		Length.		Breadth or Thickness.	Height or Depth.		
		Each.	Total.				
<u>Plastering</u>							
Inside & outside of front wall & cross wall	1	-	67 1/2	-	10 1/2	708 3/4	✓
Gable over cross wall both sides	1	-	15	-	5	75	✓
Sides & soffits of doors	1	-	19 1/8	1 1/2		28 7/8	✓
do do windows	3	15	45	1 1/2		67 1/2	✓
Sides of seat for furnace	1	-	10 1/2		1	10 1/2	✓
outside of wall of seat	1	-	11 1/4		2 1/2	28 1/8	✓
do of seat for flue up to the bottom of forge	1	-	6	1 3/4		10 1/2	✓
Sides of forge	1	-	11 1/2		2 1/2	35	✓
Top of do	1	-	3 1/2	2 1/2		8 1/2	✓
Extrados & intrados of arch do	1	-	8	3 1/2		28	✓
Sides of do	1	-	4		2 1/4	9	✓
Chimney up to top of main wall	2	3	6		3 1/2	21	✓
do above	1	-	9		5	45	✓
Total plastering square feet						1094 1/8	✓
<u>Deductions</u>							
doors both sides	1	16			7 1/2	120	✓

Detail of Work.	Number.	Measurements in feet.				Contents.	Total quantity of each description of work.
		Length.		Breadth or Thickness.	Height or Depth.		
		Each.	Total				
Windows both sides	1	3	12	1 1/2	54		
Furnace door	1	-	-	1 1/4	1 1/4		
Cross wall near furnace	1	-	6 5/8	3 1/2	23 3/8		
do flue	1	-	-	1 1/2	2 1/2		
Cistern & forge	1	-	3	1	3		
Chimney	1	-	-	-	-		
Total deductions square feet						20 7/8	
Net plastering square feet						33 7/8	
Flooring					60 9/16		
Drying room	1	-	11 1/4	4 1/4	210 3/4		
Forge room	1	-	11 3/4	11 1/4	270 3/4		
Total flooring square feet						270 3/4	
Deductions.							
Seat of flue in drying room	1	-	3 3/8	2	6 3/4		
Furnace in forge do	1	-	6 7/8	3 7/8	26 5/8		
Forge	1	-	5 1/2	4 1/4	23 3/8		
Pillar in forge room	1	-	2 1/4	2 1/4	5 1/6		
Total deductions square feet						61 13/16	
Net flooring square feet						208 45/16	

Detail of Work.	Number.	Measurements in feet.				Contents.	Total quantity of each description of work.
		Length.		Breadth or Thickness.	Height or Depth.		
		Each.	Total.				
<u>Wood work.</u>							
Planks for lower shelf with holes for the pump in drying room	1	-	27	$\frac{3}{4}$	$\frac{1}{8}$	$3\frac{3}{8}$	✓
Standards for - do -	7	$\frac{3}{4}$	$5\frac{1}{4}$	$\frac{1}{4}$	$\frac{2}{3}$	$\frac{7}{8}$	✓
Planks for upper shelf with notches - do -	1	-	27	$\frac{1}{2}$	$\frac{1}{4}$	$6\frac{1}{8}$	✓
Pegs for - do -	7	$1\frac{1}{2}$	$10\frac{1}{2}$	$\frac{1}{8}$	$\frac{1}{4}$	$\frac{7}{16}$	✓
Frame to support bellows	1	-	21	$\frac{1}{3}$	$\frac{1}{4}$	$7\frac{1}{4}$	✓
Bellows handle -	1	-	5	$\frac{1}{8}$	$\frac{1}{8}$	$\frac{5}{32}$	✓
Bottom plank for arm rack	1	-	32	1	$\frac{1}{8}$	$5\frac{1}{3}$	✓
Top - do -	1	-	32	$\frac{1}{2}$	$\frac{1}{8}$	$2\frac{3}{8}$	✓
Uprights - do -	10	$4\frac{3}{4}$	$47\frac{1}{2}$	$\frac{3}{4}$	$\frac{1}{4}$	$8\frac{7}{8}$	✓
Total wood work C.ft.						$28\frac{1}{2}$	✓
Plain batten doors	2	4	-	-	$7\frac{1}{2}$	2	✓
Windows burred and glazed -	3	3	-	-	$4\frac{1}{2}$	3	✓
Iron chains for bellows	1	-	$3\frac{1}{2}$	-	-	$3\frac{1}{2}$	✓
<u>Iron work.</u>							
Foot of flue	1	-	$1\frac{1}{2}$	-	$4\frac{1}{8}$	$18\frac{15}{16}$	✓

Detail of Work.	Number.	Measurements in feet.				Contents.	Total quantity of each description of work.
		Length.		Breadth or Thickness.	Height or Depth.		
		Each.	Total				
of flue — 1	-		$18\frac{9}{16}$	$2\frac{3}{16}$	-	$58\frac{3}{8}$	
Total square feet							
<u>Decorations.</u>							
Unicircular space included at bottom of flue	1					$\frac{7}{8}$	
Rectangular part - do - 1	-		$1\frac{5}{8}$	$1\frac{1}{8}$		$3\frac{1}{8}$	
Total square feet						$3\frac{15}{16}$	
Net iron work sq. ft. in flue with $\frac{3}{16}$ " thick						$54\frac{15}{16}$	
Net iron work sq. ft. in flue with $\frac{3}{16}$ " thick						1412	
<u>Iron forge</u>							
Plates $\frac{1}{2}$ " thick over forge 1	-		$8\frac{1}{2}$			$33\frac{1}{2}$	
Plates $\frac{1}{2}$ " thick 1	-		$6\frac{1}{2}$			$21\frac{1}{3}$	
Plates $\frac{1}{2}$ " thick 1	-		$3\frac{1}{2}$			$16\frac{1}{8}$	
Plates $\frac{3}{8}$ " thick to support 1	-		$3\frac{1}{2}$	$\frac{3}{8}$		$18\frac{3}{4}$	
Plate over chimney $\frac{1}{8}$ " thick 1	-		$2\frac{1}{2}$	$\frac{1}{2}$		$5\frac{23}{12}$	
Total iron work in all in the						$2\frac{5}{8}$	
Concrete over masonry chimney 1	-		$3\frac{1}{2}$	$\frac{1}{2}$	$\frac{1}{2}$	$2\frac{5}{8}$	
Dismantling a portion of masonry for chimney 1	-		3	$\frac{1}{2}$	$3\frac{1}{2}$	$15\frac{3}{4}$	



P.W.D.

40EP76

No. 2092

D. P. W. South Canara District.

1876.

Detailed Estimate No. 6 of 1876-77.

Work.

Installation of posts
of the fence shed for a dyke
near and bridge near for
Ammanai Chikkar Mangalore

NOV 14 1876
South Canara District Engineer's Office
Mangalore
To the District Engineer
Mangalore

The District Engineer
Mangalore
Sir,

I have the honor to acknowledge the receipt of your letter of the 10th inst. in relation to the plan submitted by me for the conversion of the shed at Mangalore into a

storehouse for the storage of gunpowder. I have the honor to state that from the plan submitted by me on the 10th inst. it appears that the plan returned to me on the 10th inst. is a revised plan and that the plan returned to me on the 10th inst. is a revised plan.

* Herewith resubmitted.

I have the honor to state that from the plan submitted by me on the 10th inst. it appears that the plan returned to me on the 10th inst. is a revised plan and that the plan returned to me on the 10th inst. is a revised plan.

This has arisen from the omission in the former plan of details which should have been entered and which are now supplied in the revised plan. It will be seen that the east end of the

the building ^{had} already been fitted as an Armourer's shop, so that all, that is required, is the Forge room and drying room.

3. Both these rooms have now been located in the finished and the standard plan has been adhered to, so far as the exigencies of the place will admit. The western room has not been utilized, as the accommodation is in excess of the standard plan.

4. In the Armourer's shop, additional arm racks have been placed as the existing stairs do not come up to requirements.

5. In reference to para 2 of your letter above noted, I have the honor to say that this work was sanctioned in the Military Department in G.O. No. 6027 of the 12th December 1895, after approval by the Commander in Chief and it was therefore considered unnecessary to submit the revised estimate, which merely differed from the original in matters of Engineering details - Under similar circumstances

I now submit the 3rd revised estimate direct. It will be observed that there is a saving on the last estimate.

I have the honor to be
Sir,
Your obedient servant,
District Engineer
South Canara

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LD 15-3-72 No 733
4-8-75 127

4-8-75 2520

(The Engineer's No 299 311/2/76)

Stations plan

P.W.D.

42EP76

6898

1/2/76

Copy to Forge Room -
submit a revised plan
portion of the building
Commence work at
Mangalore, also submit
the plan revised with
the draft notes within

26/11/76

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28/11/76

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No. 2433

Public Works Department.

PROCEEDINGS OF THE MADRAS GOVERNMENT.

Under date the

13th Sept 1876

Read the following:—

Pro: of the Madras Government
in the Public Department } (H.C. No 6027 of 14th Dec 1875)
District Eng. South Canara (" " " 88 " 11th March 1876)
" " " " " 11 " 5th May ")
" " " " " 13 " 26th Aug 1876)

The Estimate of Rs 600
for adaptation of a portion
of the Gun Shed for a
drying room and a store
room for the Armourer's
Shop of ^{the} Regiment of
Native Infantry at Mangalore
is sanctioned.

2. There are no funds at
present available.

3. This sanction has been
registered as Imperial
No. 81 of 1876-77.

D. S. Canara ✓

P. P. Prasad ✓

Public Dept. ✓

Dated 30/9/76

W. H. 8.9.76

6398
7849
1876

Gobt. of 1876 Madras.
PUBLIC WORKS.

To
The H. E. South Canara

Dated
Issued
Recd
Encl.

G. O., 18th Sept 1876, No. 2433

Nos. 1756

Conversion portion of Sun-shed
at Mangalore into a drying-room
and Forge-room for ~~the~~
~~the~~ Armourer's Shop for
the Native Infantry - &c.
estimate of Rs. 600 for
— sanctioned

Cont. in Rep.
2-11-76