M R O. 1—77,006—8-6-37.

(1) Number of pages 44

(2) Date of repair 29-1-43

(3) Initials of the Referencer

# MADRAS RECORD OFFICE.

## Government of Madras.

Public works **DEPARTMENT.**

G.O. No. 1830 & 1831 Press Mis.

217-223

Dated 11--6-- 1866.

***Not to be folded or roughly handled***

*Proceedings of the Madras Government, Public Works Department,*
*11th June* 1866.

Read the following papers :—

No. 217. From the Superintending Engineer, 6th Division, to the Secretary to Government, Public Works Department, dated Tirumanoor, 16th March 1866, No. 1,989.

1. With reference to G. O. No. 569, dated 17th ultimo, I have the honor to enclose the Proceedings* of a Committee assembled at Trichinopoly, by order of the Major General Commanding, relative to the points raised by the Army Sanitary Commission, regarding the distance from the Barrack doors at which beds should be placed, and the sheltering of the beds by means of chicks or small screens.

* 5th March, to be returned.

2. The Committee is of opinion that beds should not be within 18 inches of doors, and that doors should be constructed with the lower half panelled and the upper glazed, the latter being so arranged that the glazed portion may, if necessary, be opened while the panelled portion remains shut, and that the lower half of the doors should be provided with small openings protected by perforated zinc plates. This arrangement the Committee regards as superior to the use of chicks.

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*Proceedings of a Committee held at Trichinopoly on the 5th day of March* 1866, *by order of Major General Armstrong, Commanding Southern Division, to enquire into, and report upon, a point connected with the accommodation of Troops in Barracks, raised by the Army Sanitary Commission, and quoted in Proceedings and Order of Government, dated 17th February* 1866, *Public Works Department, No.* 569.

PRESIDENT.

Surgeon Major, J. L. RANKING, *in charge, Office of Deputy Inspector General of Hospitals, Southern Division.*

MEMBERS :—

Lieut.-Colonel, T GREENAWAY, *Executive Engineer, Trichinopoly,*

Captain W. HANDS, *Staff Corps, Deputy Asst. Qr. Mr. Genl., Southern Division.*

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The Committee having assembled, pursuant to Order, President and Members all present :—

Proceedings of the Madras Government, Public Works Department, dated 17th February 1866, No 390, and Order thereon No. 569, of same date, are read and entered on the Proceedings.

No. 290. Read the following Circular from the Government of India, Public Works Department, dated Fort William, 18th January 1866, No. 7.

Doors and windows in Barracks for European Troops.

Read Extract from the conclusions of the Government of India on the principles of Barrack construction (*Vide* Public Works Department Circular No 89 of 1864, Conclusion No V.)

"In connection with this proposal, the Government of India further considers that the following "rules should be strictly attended to in regard to the arrangements of beds in a ward, viz :—

"That there shall be only two rows of beds in a ward ; that no bed shall be placed within "nine inches of a door ; and that not more than two beds shall be allowed in the wall space between "two contiguous doors"

Read also :—

Extract from the remarks of the Army Sanitary Commission in England on the above conclusion :—

"The word 'doors' is used in the conclusion ; but, wherever local circumstances admit of "windows being used instead of doors, it would be advisable. The disadvantage of having too "many doors is that it exposes men to hurtful draughts—a well known cause of disease in India. "We agree with the proposal not to place the beds nearer to the doors than nine inches ; but we "question whether even this would afford sufficient shelter, and we consider that it would be "always advisable, where there are doors, to shelter the beds by chicks or small screens, as "proposed in our 'suggestion.'"

ORDER.—Ordered that a copy of the foregoing be forwarded to the Local Governments and Administrations noted in the margin, for their opinion, and that of the Principal Medical Officers under them, on the point raised by the Army Sanitary Commission.

Government of Madras.

(Signed) C. H DICKENS, Lieut.-Colonel, R. A.
*Secretary to the Government of India.*

To the Secretary to the Government of Madras in the Public Works Department.

No. 391. ORDER THEREON, 17th February 1866, No 560.

MILITARY WORKS, No. 27.

Communicated to the Superintending Engineers of the 3rd, 4th, 5th, 6th, and 7th Divisions, in order that, in communication with the Military authorities and the Principal Medical Officers in their Divisions, they may report on the point raised by the Army Sanitary Commission.

(True Extract.)

(Signed) CHARLES A. ORR, Colonel, R. E.,
*Secretary to Government.*

1. The Committee now proceed to consider the subject above recorded, and to record their opinion, as follows, on the question raised by the Army Sanitary Commission.—

2 That the distance of nine inches between open doors and beds is not sufficient to shelter from draughts, and that they consider the minimum should be eighteen inches.

3. The Committee further considers that the principle of having doors constructed in two segments, the lower half panelled and the upper glazed; the glass being further let in frames capable of being opened or closed, as may be considered advisable with reference to season of year, strength of wind, &c, preferable to any system of screens or chicks.

4. In the principle of construction recommended, during strong wind, the door being closed, currents of air have no access to the bodies of sleepers, while by opening the upper half of the doors, a current of air enters freely *above* the heads of the sleepers, and diffuses itself throughout that portion of the building in which ventilation, by a constantly renewed current of air, is most necessary.

5. On calm and sultry nights the doors may be thrown entirely open.

6. The lower part of the door panels might, also, in the opinion of the Committee, be provided with small openings guarded by perforated zinc plates

(Signed) J L. RANKING, Surgeon Major,
*In charge, Office of Deputy Inspector General of Hospitals, Southern Division* } President.

(Signed) T. GREENAWAY, Lieut.-Colonel,
*Executive Engineer, Trichinopoly,*
(Signed) W. HANDS, Captain,
*Deputy Asst. Qr. Mr. Genl., Southern Division.* } Members.

I entirely concur in the opinion of the Committee on the advisability of constructing the doors on the plan they have suggested.

(Signed) E. ARMSTRONG, Major General,
*Commanding Southern Division.*

No. 218. From the Superintending Engineer, 3rd Division, to the Secretary to Government, Public Works Department, dated Camp Hospett, Bellary, 24th March 1866, No. 241.

1. With reference to G. O., No. 560, of the 17th ultimo, I have the honor to inform you that I have communicated with the Major General Commanding the Division, who called on the Officer Commanding H. M.'s 76th Regiment, the Deputy Inspector General of Hospitals, and the senior Medical Officer of H. M.'s 76th Regiment, and beg to report that, in our opinion, it is better to have doors for the Barrack rooms, as they admit of a fuller and more free circulation of air throughout the building when such may be wished.

2. I am, however, requested to suggest that the doors be divided into three parts, the two upper being so arranged that either one or both can be made to open back when required, the lower or panel portion being shut, and thus answering the purpose of a window.

No. 219. From the Superintending Engineer, 4th Division, to the Secretary to Government, Public Works Department, dated Madras, 31st March 1866, No. 4,750.

3 Letters.

1. With reference to G. O, No. 560, dated 17th February 1866, I have the honor to report that I have placed myself in communication with the Major General Commanding the Division, and the Inspector General Medical Department on the subject, and their letters I beg to enclose.

2. Dr. Shaw quite concurs with the Army Sanitary Commission in England, in considering "that, wherever local circumstances will admit of windows being used instead of doors, it would be advisable to adopt them," he agrees also in thinking that "beds should not be placed nearer the doors than nine inches," and further that "the occupants of such beds should be sheltered by the use of chicks, or small screens."

3. The Major General also agrees in the main to the principles advocated by the Commission, though he does not think that they apply to the Barracks at the Presidency and the other stations in his Division, where, on the contrary, owing to the want of proper arrangements for ventilation, he would prefer seeing the existing windows converted into doors.

4. My own opinion is that, as a rule, we do provide in this country too much of *door-way*, and that, in future constructions, the suggestions of the Commission, as regards windows, should be carried out. Ventilators, which may be made to open or shut at pleasure, formed through the foot of the walls, may be made to compensate in a measure for the loss of ventilation incurred by doing away with the doors.

5. The distance of the cots from the edge of the doors must be dealt with according to each particular case. It should, certainly, never be less than nine inches, more especially as, I believe, the rule is that the cots shall always be drawn out one foot from the walls.

6. Curtain screens, formed with rings running upon rods of iron or brass, may with great advantage be placed along side each cot which abuts on a door-way, both as a check to draughts and also to ensure to patients a certain amount of that privacy which most invalids do so greatly covet.

From the Executive Engineer, Mount Range, to the Superintending Engineer, 4th Division, dated Mount, 6th March 1866, No. 784.

1. With reference to your No. 4,316 of the 2nd March, requesting my opinion as to whether nine inches be sufficient space between a bed and a door-way in a ward, I have the honor to

state that, as twenty-four feet is fixed for the width of a ward, and ninety superficial feet the space for each man, and therefore seven and a half running feet of wall for each bed, or fifteen feet for two beds, there will be, giving four feet as the width of a door, eleven feet of wall for each pair of beds, and if the beds are three feet wide each, there will remain five feet of wall to be distributed into space between beds and spaces between doors and beds.

2 If two feet be considered the minimum space to be allowed between the cots, there will be one and a half feet between each bed and the door. If three feet between the cots there will be one foot between each cot and the door, so that there appears no absolute necessity for limiting the distance between cot and door to nine inches, should the latter be considered insufficient, and, for my own part, I do not think it enough. If screens are to be erected, I would recommend them being made only six and a half feet high, and placed in the centre of the space between the doors; the cots could then be placed against the screens, and they would then be two and a half feet clear of the doors By this arrangement, each man would be well sheltered from draughts, and would have his own portion of the room secured to him. The screen, if made of wood, might have a shelf fixed to it, which would be a great convenience.

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From the Officiating Secretary, Principal Inspector General, Medical Department, to the Superintending Engineer, 4th Division, dated Fort Saint George, 8th March 1866, No. 1,151.

In reply to your letter, No 4,337, of the 2nd instant, I have the honor, by order, to inform you that the Officiating Principal Inspector General, Medical Department, agrees with the Army Sanitary Commission in the opinions expressed in their remarks quoted in the Proceedings of Government, Public Works Department, No 569, dated 17th February 1866, namely, that "wherever local circumstances will admit of windows being used instead of doors, it would be "advisable to adopt them," that beds should not be placed nearer to the doors than nine inches, and that the occupants of such beds should be still further sheltered by chicks or small screens being used.

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From the Deputy Assistant Quarter Master General, Centre Division, to the Superintending Engineer, 4th Division, dated Fort Saint George, 19th March 1866, No. 719

I am directed by the Major General Commanding the Division, to state, in reply to your letter, No 4,337, of 2nd March 1866, that he fully concurs in the remarks of the Army Sanitary Commission, quoted in the Orders of Government, Public Works Department, No 569, dated 17th February 1866, as to the advisability of substituting windows for doors where local circumstances admit, and to shelter the beds with screens in the case of doors; but the ventilation by other means of all the Barracks at Fort Saint George, St. Thomas' Mount, and Poonamallee is so very defective, that he cannot recommend the substitution of windows for doors in any of them, but, on the contrary, coincides with the Madras Sanitary Commission and the several Committees, assembled in accordance with G. O. C. C., No 111, of 1st December 1864, page 699, in thinking that it would be advisable to improve the ventilation by making many of the windows into doors.

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No. 220. From the Superintending Engineer, 5th Division, to the Secretary to Government, Public Works Department, dated Cuddalore, 30th April 1866, No. 133.

1. With reference to your Memorandum of the 27th, No. 159, I have the honor to state, that I have delayed replying to the Order of Government of the 17th February, No. 569, as I could report more fully on the subject from Bangalore.

2. My opinion is that, after a sufficient number of doors have been provided for ready ingress and egress, for the rest of the openings for light and ventilation, windows are to be preferred to doors.

*Proceedings of the Madras Government, Public Works Department,*
11*th June* 1866.

No. 221. From the Superintending Engineer, 7th Division, to the Secretary to Government, Public Works Department, dated Coonoor, 30th April 1866, No. 356.

1. I have the honor to report my opinion, with reference to the subject of G. O., No. 569, of 17th February, that the ruling of the Government of India should stand as it is, leaving the question, whether windows might not occasionally supersede doors, for decision by the local authorities. Nothing can be easier than to alter a door space into a window space, if required. At the same time, my own belief is that living in draughts is not in this country the hurtful thing that it is found in colder climates. Door spaces are more favorable to thorough ventilation than window spaces, and I consider chicks and screens as unnecessary in Barrack rooms generally.

2. Communication with the principal Military and Medical authorities of the Mysore and Southern Division has been unnecessary in my case, as the Superintending Engineers of 4th and 6th Divisions will already have elicited their opinions.

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No. 222. From the Superintending Engineer, 5th Division, to the Secretary to Government, Public Works Department, dated Cuddalore, 8th May 1866, No. 7.

1. With reference to the Order of Government of the 17th February 1866, No. 569, and in continuation of my letter of the 30th of April, No. 133, I have the honor to report that the Deputy Inspector General of Hospitals considers that doors and windows in Barracks and Hospitals should alternate, and that a door on one side of the building should be opposite a window on the other.

2. As regards wall space, he is of opinion that beds should be 3 feet from each other, and not nearer to doors and windows than 18 inches or 2 feet.

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No. 223. ORDER THEREON, 11th June 1866, No. 1,830.

MILITARY WORKS, No. 15.

Ordered that the foregoing papers be forwarded to the Government of India, with reference to their Proceedings, No. 7, under date the 18th January 1866.

(Here enter No. 1,831, dated 11th June 1866.)

(True Extract.)

(Signed) CHARLES A. ORR, Colonel, R. E.,
*Secretary to Government.*

To the Superintending Engineers,
„ Military Department, } with copy of letter to Government of India.

Exd. J. H. Burns.

PUBLIC WORKS DEPARTMENT,
FORT SAINT GEORGE,
11*th June* 1866.

No. 1,831.

No 224.
To.

THE SECRETARY TO THE GOVERNMENT OF INDIA.

SIR,

MILITARY WORKS, No. 16.

1. With reference to the Proceedings of the Government of India, No. 7, dated the 18th January 1866, I am directed to forward the accompanying papers containing the views of the principal Military and Medical authorities, and of the Superintending Engineers in this Presidency, on the points raised by the Army Sanitary Commission in England, regarding the distance at which beds should be placed from Barrack doors, the substitution of windows for doors, and the shelter of beds by chicks or small screens.

2. It will be observed that some of the Officers whose opinions have been taken agree in the several suggestions of the Commission, while others consider that the distance between open doors and beds should not be less than 18 inches, and that the adoption of doors made in two or three sections would be preferable to any system of windows, and would render unnecessary the use of the proposed screens or chicks.

3. In the opinion of this Government, no rule can be laid down regarding windows and doors, although there appears to be no objection to the use of the latter in a climate such as that of Madras. His Lordship in Council further considers that bed screens should be made of a standing or folding pattern, and should not be placed in such a way as to keep off too much air. As a rule, cots should not be placed nearer to doors than the distance recommended by the Sanitary Commission.

I have the honor to be,
Sir,
Your most obedient servant,
(Signed) CHARLES A. ORR, Colonel, R. E.,
*Secretary to Government.*

Exd. J. H. Burns.

Proceedings of a Committee held at Secunderabad on the 5th day of March 1866, by order of Major General Commanding Cavalry Division, to enquire into and report upon certain points connected with the accommodation of Troops in Barracks, & called for by the Army Sanitary Committee and quoted in Proceedings and Order of Govt. of India No. 17 to 21st January 1866. M.P.C. No. 569.

President { Surgeon Major C.R. Mackenzie In charge Office of the Asst. Qr. Mr. Genl. of Hosps. &c.

Members { Lieut. Col. W.H. Galloway Deputy Surgeon General
Captain Saunders Staff Corps
Lieut. & Adjt. Engrs. Staff Corps &c.

The Committee having assembled pursuant to order President and Members also present

Proceedings of the Madras Government M.P.C. dated 17th February 1866, No. 390 and order thereon No. 569 of same date are read and entered on the Proceedings.

No. 390. Read the following Circular from the Government of India, Public Works Dept. to Govt. Fort William 18th January 1866 No. 7.

Doors and Windows in Barracks for Hospitals &c.

Read — Extract from Minute of Members of the Government of India on the principles of Barrack Construction / vide Public

Barrack Dept. Circular No. 89 of 1864,
Enclosure No. V.)

"In connection with this proposal, the Government of India further consider that the following rules should be strictly attended to, regarding the arrangements of beds in wards, viz:-

"That there shall be only two rows of beds in a ward; that no bed shall be placed within 9 inches of a door; and that both rows shall not be shut in the ward shall between two contiguous doors."

Read also.

Extract from the Minutes of the Sanitary Commission to England on the above Resolutions

"The word "door" is used in the Resolutions; but in Barracks & Local Circumstances admits of doorways being used instead of doors; it would be advisable. The disadvantage of having too many doors is, that it exposes men to hurtful draughts, a very common cause of disease in India. We agree with the proposal not to place beds nearer than 9 inches of the doors, but no question as to whether doors should afford sufficient shelter; and we consider that it would be always advisable where there are doors to shelter the beds by Chicks or Swab Screens,

as proposed in our Suggestions"

Order. Ordered that a Copy of the foregoing be forwarded to the Local Governments and Administrations noted in the margin for their opinions, and that of the Principal Medical Officers under them, on the points raised by the Army Sanitary Commission

(Signed) C. A. Bruce Sec. to Govt.
Genl. Dept.

To, The Secretaries to Govts. of Madras
& the Public Works Dept.

No. 391. Barrack Stores - 17 February 1866. No. 569.

Military Works No. 27. Communicated to the Superintending Engineers of the 3rd 4th 5th 6th and 7th Divisions, & under that by Communication with the Military authorities and the Principal Medical Officers in those Divisions, that any Report and the Opinions which may be expressed by the Army Sanitary Commission.

(True Extract)
D. C. Anderson Lt. R.E.
Secretary to Govt.

To, The Chief Engrs. 3, 4, 5, 6, 7 Divisions
Madras, Dept.
Principal Chief Med. Offrs.

1 Do. I am to have proceeded to enquire the subject above recorded and to record their opinion as follows.

on the question carried by the Royal Society Commission

2 That the distance of 9 inches between open door and bed is not sufficient to shelter from draught and that they consider the minimum should be 18 inches

3 The Committee further considers that the principle of having door constructed in two segments the lower half panelled and the upper glazed the glass being further let in frame & capable of being opened or closed as may be considered advisable to admit of adjustment of heat & strength of winds is preferable to any system of screens or curtains.

4 As the possibility of construction recommended during strong winds the door being closed current of air must be access to the bodies of sleepers; while by opening the upper half of the door a current of air enters freely above the heads of the sleepers, and diffused ideal throughout that portion of the building in which habitation by an constantly renewed current of air is most necessary.

5 In calm and sultry nights the door may be thrown entirely open

6 The lower half of the door panels might also in the opinion of the

(2.)

Committee be provided with small open ventilated by perforated zinc plates.

J. L. Manning. Chaplain Major
Medl. Officer of Dr. Dispy. Genl. Peninsular
Forces

Wynniatt Asst. Surgeon
Ed: Burgoyne Gilchrist
Lieut. Captain
Dr. Webb Dpty. Inspr. Genl. Hospitals

entirely concur in the opinion of the Committee as to the advisability of constructing the doors as the plan they have suggested

E. Armstrong Major Genl
Commanding Sanitary Commission

No 1989

Sanitary Engineer's Office 6th Dn
Tirumanoor 16th March 1866

From

Captain R. T. Oakes R.E.
Sanitary Engineer 6th Dn

To

Colonel C. A. Orr - R.E.
Secretary to Government P. W. D.

Sir,

With reference to G. O. No. 569 dated 17th Ultimo, I have the honor to enclose the Proceedings of a Committee assembled at Trichinopoly by order of the Major General Commanding, relative to the points raised by the Army Sanitary Commission, regarding the distance from the Barrack Doors at which beds should be placed, and the sheltering of the beds by means of chicks or small screens -

5th March - To be returned -

2 The Committee is of opinion that beds should not be within 18" of Doors and that Doors should be constructed with the lower half panelled and the upper glazed, the latter being so arranged that the glazed portion may, if necessary, be opened while the panelled portion remains shut and that the lower half of the Doors should be provided with small openings protected by perforated zinc plates. This arrangement the Committee regards as superior to the

used

Insp. Engineer Genl's Office
Camp Koojeta
Taling Koojeta
Bellary District
24th March 1866.

No. 241.

From.

The Superintending Engineer
3d Division

To

The Secretary to Government.
P.W.D

Sir,

With reference to G.O. No. 569 of the 17th Ulto. I have the honor to inform you that I have communicated with the Major General Commanding the Division who called on the Officer Commanding H.M. 76 Regiment the Deputy Inspector General of Hospitals and the Senior Medical Officer of H.M. 76th Regiment and beg to report that in our opinion it is better to have Doors for the barrack rooms as they admit of a fuller and more free Circulation of air throughout the Bunkers, when such may be wished.

2 I am however requested to suggest that the Doors be devided into 3 parts, the two upper being so arranged that either one or both can be made to open back when required, the lower or panel portion being shut and thus answering the purpose of a window.

I have &c.

A. Mulberry Major Corps
Superintending Engineer
3d Division

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Inspr. Genl's Office
Camp Koojeta
Taling Koojeta
Bellary District
24th March 1866.

No. 241.

From.

The Superintending Engineer
3d Division

To

The Secretary to Government.
P.W.D

Sir,

With reference to G.O. No. 569 of the 17th Ulto. I have the honor to inform you that I have communicated with the Major General Commanding the Division who called on the Officer Commanding H.M. 76 Regiment the Deputy Inspector General of Hospitals and the Senior Medical Officer of H.M. 76th Regiment and beg to report that in our opinion it is better to have Doors for the barrack rooms as they admit of a fuller and more free Circulation of air throughout the Bunkers, when such may be wished.

2 I am however requested to suggest that the Doors be devided into 3 parts, the two upper being so arranged that either one or both can be made to open back when required, the lower or panel portion being shut and thus answering the purpose of a window.

I have &c.

A. Mulberry Major Corps
Superintending Engineer
3d Division

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Received 1866 No. 1130

From Superintending Engineer 3d Division

To Secretary to Government P.W.D

Dated 24th March 1866

Received 31st March 1866

Subject Requesting to have Doors for the Barrack Rooms

Answered

Forwarded Requesting to have Doors for the Barrack Rooms

Examined

Recorded

Entered

Indexed

Dispatched

---

Use of Chicks

I have the honor to be
Sir
Your most Obed't Servant

[illegible] Captain R.E.
Sub Superintendent &c &c

---

C. 261 Jany 1866 No. 2185

(19)

№ 419 - Jo

The Superintending Engineer
4th Division
Madras

Sir

I am directed by the Major General Commanding the Division, to state in reply to your letter № 4357 of 2nd March 1866, that, he fully concurs in the Remarks of the Army Sanitary Commission, quoted in the orders of Government Public Works Depart. № 359 dated 17th February 1866, as to the advisability of substituting windows for doors where local circumstances admit, and to shelter the beds with screens, in the case of doors but the ventilation by other means of all the Barracks at Fort St. George, St. Thomas Mount and Pomamalle is so very defective, that he cannot recommend the substitution of windows for doors in any of them - but on the contrary coincides with the Madras Sanitary Commissions and the several Committees assembled in accordance with G.O.C.C. № 111 of 1st December 1864 page 699 - in thinking that it would be advisable to improve the ventilation by making many of the windows into doors.

I have the honor to be
Sir
Your most obedt Servt

J. J. Tulloch Major
Dy Asst Qr Mr Genl C. D.

By order of Dy Asst Qr Mr Genl Office
Centre Division
Fort St. George 19th March
1866.

C. S. R.

Dy Asst Qr Mr Genl Office
Rec'd 21st March 1866
Dist

(Illegible)
3 Enclosures

Dist 21st March 1866
Recd 23rd March 1866

(Illegible)

Copy forwarded to Army Commissariat with the Return of Regt Camp Equipage and other articles rendered unserviceable during the year 1865 and Estimate for Supply of the same in 1866 for Barracks only per Bearer.

Lt Col
Dy Asst Qr Mr Genl

Dist 24th March 1866

Recd 26th March 1866 - No 319

1784

From

To

Sir

The E. Engr. Fort St. Geo.

The Supt. Engr. &c &c &c

Madras

With reference to your No 254 of the 2d March, requesting my opinion as to whether "9" be sufficient Space between a bed and a door-way in a ward, I have the honor to State that as 24 Ft. is fixed for the widtth of a ward and 90 Superficial Feet the Space for each man and therefore 9 Ft. of wall for each bed or 15 Ft. for two beds, there will be giving 4 Ft. as the widtth of a door, 11 Ft. of wall for each pair of beds and if the beds are 3 Ft. wide each, there will remain 5 Ft. of wall to be destributed into Spaces between beds and Spaces between doors and beds.

If 2 Ft. be considered the minimum Space to be allowed between the Cots there will be 1½ Ft. between each bed

and the door. If 3 ft. between the Cots there will be one foot between each Cot and the door, So that there appears no absolute necessity for limiting the distance between Cot and door to 9", Should the latter be Considered insufficient for my own part I do not think it enough. If Screens are to be erected, I would recommend them being made only 6½ ft. high and placed in the centre of the Space between the doors the Cots could then be placed against the Screens and they would then be 2½ ft. clear of the doors, by this arrangement each man would be well Sheltered from draughts and would have his own portion of the room secured to him, the Screen if made of wood might have a Shelf fixed to it which would be a great Convenience.

Mount Range Office
6 March 1866

I have the honor to be
Sir
Your most Obt. Servant
[signature]
Captain R.E.
E. Engr. Mount Range

No 1151

Office of Principal Inspector General, Medical Department, Fort Saint George, 8th March, 1866.

From

The Offg: Secy: Princ: Inspr: General Medical Department Fort Saint George

To

The Superintending Engineer 4th Division.

Sir:

In reply to your letter No 4357, of the 3rd instant, I have the honor by order to inform you that the officiating Principal Inspector General, Medical Department, agrees with the Army Sanitary Commission in the opinions expressed in their remarks quoted in the Proceedings of Government, Public Works Department, No 569 dated 17th February

Superintending Engineer 4th Div.

From
The Offg: Secy:
Princ: Inspr: General
Medical Department
Fort Saint George

Dated 6th March 1866
Rec'd 8 March

To
The Superintending Engineer
4th Division

Submitting the Report and accounts noted in the margin for transmission to Government.

Enclosures Copy

Superintending Engineer 4th Div.

February 1866, namely. That "wherever local circumstances will admit of windows being used instead of doors, it would be advisable that beds should not be placed nearer to the doors than nine inches - and that the occupants of such beds should be still further sheltered by chicks or small screens being used.

I have the honor to be
Sir:
Your most Obt. Servant
Geo. Mac Reynolds
Offg: Dep: Surgn: Genl
Medical Department.

C. D. Thomson

Supt Engr Office 4th Div. Albany
No 4759. 31 Augt 1866

Brvt Col A. Wellington
Supt & Engr 4th Div
Albany NY

Col C. Thom
Chief Engr
Dept of the East
Sect 2 Fort Columbus

Sir

I have the honor to
acknowledge the receipt of your
letter of February 1866 & have the honor to
inform that I have placed myself in
communication with the Medical Director
General Dept of the East & the Subject
of your letter & enclosure
Chief Medical Officer
I beg to enclose
herein Letter from the Surgeon
in charge of Quarantine at Staten Island
Commissioners of Emigration
Army Surgeon in charge of Marine Hospital
Dr Stimson that he is unable to
furnish the information
circumstances will admit of, at present
being under instruction of the Surgeon
General to adopt "Kimballs Ventilator"
in Barracks that beds should not be
placed nearer the doors than the
head of the adjoining bed, & the
bedsteads nearer than "two feet"
which further requirements
render it impossible for me to
furnish the information
required by the Department
Commander

Very Respectfully
Your Obt Servt
[illegible]
Capt & Asst Engr
Bvt Col U.S.A.

---

1866
No 1298. Deptt

From
The Offg: Secy of Insp Genl
Medical Department
Fort Ld George

To
The Superintending Engineer
4th Division.
B.W. 1363/14
Dated 8th March
Recd
11
Rec

No 115 1866

Informs that the Offg
Dpty Insp Genl addresses with
the opinion of the Army
Sanitary Commission
relative to steam vessels
used [illegible]

Col Thom
Col Wellington
replies

Barracks at the Presidency & the other Stations in this Division, where on the contrary, owing to the want of proper arrangements for ventilation, he would prefer seeing the existing windows converted into doors.

4- My own opinion is that as a rule we do provide in this country too much of door way, and that in future constructions, the suggestions of this commission as regards windows should be carried out. Ventilators, which may be made to open or shut at pleasure, formed through the foot of the walls, may be made to compensate in a measure for the loss of ventilation incurred by doing away with the doors.

5. The distance of the Cots from the edge of the doors must be dealt with according to each particular case. It should, certainly, never be less than 9 inches, mine especially as, I believe the rule is that the cots shall always be drawn out one foot



from the walls.

6. Curtain screens, formed with rings running upon rods of iron or hair, may with great advantage be placed alongside each cot which abuts on a doorway, both as a check to draughts and also to ensure to Patients a certain amount of that privacy which most Invalids do so greatly covet.

I have the honour to be
Sir
Your most obedt Servant
H Pearse Col RE
Sup[g] Engr 4 Div

Sup. Engr. Office 4 Div.
Madras
31st March 1866

133.

Superintend^g Engineer's Office,
Cuddalore 30^th April 1866.

From,

The Superintending Engineer,
5^th Division.

To,

The Secretary to Government,
D. P. W.

Sir,

With reference to your Memo of the 27^th No. 159, I have the honor to state, that I have delayed replying to the order of Government of the 17^th February No. 569, as I could report more fully on the subject from Bangalore.

2. My opinion is, that after a sufficient number of doors have been provided for ready ingress and egress, for the rest of the openings for light and ventilation, Windows are to be preferred to doors.

I have the honor to be,
Sir,
Your most obedient Servant,
E. A. Lovd[?] Lieut. Col. R.E.
Superint^g Engineer 5 Div^n.

Supg: Engrs: Office 7th Division
Coonoor 30th April 1866

356.

From
Lieut.t Colt. G. W. Walker R.n E.
Superintending Engineer
7th Division

To
Colonel C. A. Orr R.n E.
Secretary to Government P.W.D.
Madras

Sir,

I have the honor to report my opinion with reference to the subject of G.O. No. 569 of 17th February, that the ruling of the Government of India should stand as it is, leaving the question whether Windows might not occasionally supersede Doors, for decision by the Local Authorities— Nothing can be easier than to alter a Door space into a Window space, if required— At the same time my own belief is that living in draughts is not in this Country the least Evil thing that is to be found in Colder Climates— Door spaces are more favorable to thorough ventilation than Window spaces, and I consider Chicks and Screens as necessary in Barrack Rooms generally—

2. Communication with the Principal Military & Medical Authorities of the Mysore and Southern Division has been unnecessary in my case, as the Supg Engineers of 4th & 6th Divisions will already have elicited their opinions—

I have the honor to be
Sir
Your Most Obt Servant

G. W. Walker Lieut.t Colt. R.E.
Supg. Engineer 7th Div.n—

Rec.d 2 May.

To
The Secretary to Government
Public Works Department
Fort St. George

Sir,

I have the honor to forward herewith an opinion
by Lieut.t Colonel Walker R.E. Superintending Engineer
7th Division on the question of
Ventilation of Barracks &c.

I have the honor to be
Sir
Your most obedient Servant

P. Orr Colonel
Secretary to Government
Public Works Department

Ventilation of Barracks &c.
Lieut.t Colonel Walker R.E.
7th Division
Dated 30th April 1866
Received 2nd May
Referring the question whether
doors should be converted into
windows in Barracks for European
troops and expressing his
opinion on the subject.

Rec.d 2 May 1866 Co. 3161
New 1830-Pl 831-114 Dated 1866

No 7.

Superintending Engineer's Office
Cuddalore 8th May 1866

From

The Superintending Engineer,
5th Division,

To

The Secretary to Government,
P. W. D.

Sir,

With reference to the order of Government of the 17th February 1866, No 569. and in continuation of my letter of the 30th of April No 133, I have the honor to report, that the Deputy Inspector General of Hospitals considers that doors and windows in Barracks and Hospitals, should be alternate, and that a door on one side of the building should be opposite a window on the other.

2. As regards wall space, he is of opinion, that beds should be 3 feet from each other, and not nearer to doors and windows than 18 inches or 2 feet.

I have the honor to be &c.

E A [illegible] Lieut-Col R. E.
Superintending Engineer, 5th Division

Rates 30 Chuttrams
Deputy Inspr Genl
Receipt & Issue Office

Rs 2.58.

Superintending Engr
5th Div

Dupl
Secretary to Govt
Madras

Superintending Engr
5th Div

Dupl
Chief Engr & Secy to Govt
Madras

Rs 2.2.

Receipt for Instruments
Cyas to Cuttamparai
Ply & Barrack Estimate
Cuddalore

Cuddalore 18th May 1866 Rs. 2/2
Tuticorin 18th May 1866 Rs. 2/2
Tuticorin 1830-44 1831-11 Dupl
Cuddalore 1830-44 1831-11 Dupl

Public Works Department
1839

Proceedings of the Madras Government
Under date the 11th May 1866

Received the following

From
The Superintending Engineer
4th Division

(Newmarket R. 1909 dated 22nd March 1866)
D: No 241 " 24 March 1866
D: No 4459 " 31st March 1866
D: No 133 " 10th April 1866
D: No 356 " 20th April 1866
D: No 4 " 5th May 1866

Dated the foregoing
Copies be forwarded to the
Deputy Inspector General of Hospitals
Military Department
for information
Fort St. George
the 18th May 1866

By order
[illegible]
Secretary to the
Govt. of Madras

No 224

Sir

With reference to the
Proceedings of the Government
of Madras dated the
18th January 1866 on the
above subject I have
the honor to transmit
a Copy enclosing Copies, containing
the views of the Principal
Military Officers of this
Presidency
Authorities and of the Superintending
Engineers in this Presidency

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From
The Superintending Engineer
5th Division

To
The Secretary to Govt.
S. F. W.

Dated 8th
Received 11th } May 1866.

No 7

Communicating the opinions
of the Deputy Inspector
General of Hospitals on
the subject of doors & windows
in the Barracks for European
Troops.

No 222

ews 1830-61831-11th June/66

ews 26th May 1866 Dr. 31st

on the points raised by the Army Sanitary Commission in England regarding the distance at which beds should be placed from barrack doors, the substitution of windows for doors, and the shelter of beds by chicks or small screens.

It will be observed that some of the officers whose opinions have been taken agree in the general systems of the Commission, while others consider that the distance between open doors and beds should not be less than 18 inches and that the adoption of doors made into two or three sections would be preferable to any system of windows, and would render unnecessary the use of the proposed screens or chicks.

In the opinion of this Government no rule can be laid down regarding windows and doors, although there appears to be no objection to the use of the latter in a climate such as that of Madras. His Lordship in Council further considers that bed screens should be made of a standing or folding pattern, and should not be placed in such a way as to keep off too much air. As a rule cots should not be placed nearer to doors than the distance recommended by the Sanitary Commission.

Fort St George
11th June 1866

Recd 12th June with G.O. dd 7th 1830/66.

In the opinion of this Government the proposals of the Sanitary Commission both as regards the distance of lots from the edge of doors and the adoption of windows for doors should in future be carried out where practicable, and I am to add that His Lordship in Council considers that the use of bed screens would add considerably to the comfort of the men -

O. W. 1866 Depot

Bds: of Court for Lewes

&c. 1830. 1831

Bds: of the Master Court

D/11 Lewes/66

Passing orders on certain correspondence on the point relative to Doors and Windows &c. in Barracks for European Troops raised by the Army Sanitary Commission in England.

fo 217 @ 224.

e 24th May 1866 O. 316