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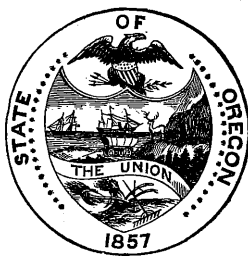
ARCHITECTS

OF THE

STATE CAPITOL,

TO

The Hon. the Board of Capitol Building Commissioners.



SALEM, OREGON:
EUGENE SEMPLE, STATE PRINTER.
1874.

REPORT.

OFFICE OF KRUMBEIN & GILBERT,
ARCHITECTS,
PORTLAND, OREGON, Sept. 10, 1874. }

*To the Honorable the Board of
Capitol Building Commissioners—*

GENTLEMEN :

We have the honor to herewith submit the following Report, together with the description and specifications, also accompanied with detailed Quantity Sheet and estimate thereon. This includes what is necessary to finish the brick work, the roof, and finish the principal and second floors of the north wing, and the central portion of building containing the following apartments: Governor's rooms, Secretary of State's rooms, Treasurer's rooms, Senate Chamber, two Committee rooms, State Library, Supreme Court room, Consultation room, and W. C. and wash rooms. The estimates here given are intended for the apartments only, putting them in proper condition, so they can be ready for use by the next session of the Legislature. The balance of the work can then be finished, from time to time, on small appropriations; the original estimates on the work were \$550,000, and by the same careful watchfulness that has character-

ized the Board, the balance can be completed, and not exceed the estimates given.

FOUNDATIONS.

The greatest importance attached to all buildings, and especially those used for public purposes, are their foundations. After a careful examination of the ground upon which the Capitol Building is situated, it was found that at a distance of three feet from the surface a bed of hard-pan could be obtained, which varied in thickness from eight to ten feet, and resting upon a gravel bed with a slope towards the river, which gives it a general draining in that direction; this is classed by architects generally, as having no superior as a foundation, and we were satisfied that no more permanent one could be found in the vicinity.

ROUGH STONE.

The material used for the foundation is generally known as trap rock, and is considered among the best kind of stone for such purpose. It is a very hard, durable stone, of a flinty nature, possessing a very lasting quality.

DRESSED STONE.

The dressed stone used, from the Umpqua quarries, takes rank with the best of sand stone found anywhere. We, with others, had a test made of the stone by a hydraulic press, and submitted it to a pressure of 4,600 lbs. to the cubic inch before it sustained the least fracture. This ranks it with the best of sand stone, tested by General Gilmore for the U. S. Government, and ranks in

precedence far ahead of the Bellingham Bay quarries or the Clackamas quarries. Each and every stone used, both in the foundation and dressed stone work, was well imbedded in cement, laid in a thoroughly workmanlike manner, and has well proven itself proof against wind and weather, in the time it has been exposed, as no preceptive flaw or settlement whatever has taken place.

BRICK WORK.

Of nearly 3,000,000 of brick which have been already used in the structure, all have been of a good, No. 1 quality, well laid, making a massive and substantial wall, which we are perfectly satisfied will meet with the approval of the Board and the general public. The lime used for the brick work we consider equal to the most of the cement used in the market.

IRON WORK.

The iron work that has been furnished on the different contracts has been of good quality, and wrought fully in detail to the full requirements of the plans, and at a reasonable figure, as the competitors were very close, resulting in securing a low contract for this work. In regard to the girders, we consulted by letter with some of the leading engineers of the East, as to the strength, quality and requirements to fully sustain the greatest weight that ever could be brought to bear upon them, and ascertained that for a factor of safety of eight, a heavier depth of web would be required than that at first submitted by us. This being adopted, it will give a strength and firmness to that portion of the building

as to fully meet the requirements needed. It may be of interest to know that the girders for the square will each sustain a weight of 43 tons with $\frac{3}{8}$ of an inch deflection, while the girders for the Senate Chambers will each sustain 39 tons with $\frac{1}{4}$ inch deflection.

CARPENTER WORK.

The progress of the carpenter's work, so far as has been done under the Superintendent, Mr. Scott, has been performed in a manner that reflects much credit upon him as a workman, and is sure to meet your approval.

VENTILATION.

No one denies the paramount importance of ventilation and of supplying every room with an abundance of pure air, and the general public expect that the architect will adopt the most effective plan at the least possible cost. No one having charge of this matter in buildings, can be exonerated if it is not properly arranged. What is ventilation? We take it to mean an admission of sufficient pure air for the health-breathing of the inhabitants, and this without draft. To avoid this, the inside temperature should not be raised to 60° and then admit air at from 30° to 40°; if you do, it must fall to the floor direct, no matter from what part of the room you admit it, and the result is, the air we have exhausted of its purity goes from us; ascends to the ceiling, becomes of the gravity of the atmosphere of the room, and in struggling to get to the flue, its only general exit, we have it to breathe again second-hand.

The fresh air should be brought into a room gently and at a proper temperature. It is entirely wrong to have a room at 60° to 70°, when outside it is only 32°. It is also wrong to connect any flue for ventilation with that used as a smoke flue. Flues for ventilating should be used for that purpose exclusively, and not connected with those that introduce the air into the room, only to exhaust it. It is a fact that to pass air over highly-heated surfaces, makes it unfit for inhalation. The method we have employed is that of bringing into the room, and at or near the floor, pure air, and warmed to any temperature required, which is done in this manner: Under all the windows, are left openings in the panel, to which, on the outside, and over the opening, is a screen plate secured to the wall. This is always open. On the inside is an apron, which is filled with Plaster of Paris, the head of which is joined to the bottom of the window-sill, while the lower end is six inches from the floor, and covering this is the screen, with the hot water pipes inside; the air follows to the opening at the foot of the apron, and at once circulates around the pipes and through the screen into the room at the floor line—the only proper place for it; it will be seen that the drafts, so common, sweeping under the doors, is prevented, a circulation is created throughout the apartment, and uniform; and for its exit the plate in the flue near the ceiling is used, being regulated by mechanical appliances, to any opening required. These flues are used for that purpose only, and do not connect with the others, each acting as its own exhaust for its respective apartment; the same must be done for all ventilating between ceilings and floors. So even will be the temperature of the room, that were a thermometer hung on the walls on

all sides, there will not be a variance to exceed 4°. We cite this for this reason: that nearly, if not quite, all of our public buildings have lacked this much needed—and most of all—good ventilation. And we claim that it is one of the first duties of an architect to lay fully, and in detail, before the builders, or Board by whom they may be employed, all such facts as will tend to the benefit and health of its occupants.

ACOUSTICS.

In this branch we believe that we have met the requirements necessary, without marring the harmony of design, and that it will require no mechanical device to modify the body and current of sound.



GENERAL REMARKS.

One great saving of funds has been, that no changes of the plans have been made. Where changes are constantly going on, it is impossible to give an estimate that is satisfactory, and generally results in serious blunders and expenditures, that are laid at the architect's door, when he should be exonerated. They have not only to deal with security to life and limb, but with that very sensible barometer—the pockets of others. And, while every advantage is theirs, the reverse falls on them most unmercifully. Their difficulties are many their designs and plans are intrusted to the skill and

workmanship of others; and to insure success in the entire work, one and all must work in harmony. In conclusion, we thank the Board, and gentlemen connected with the work, for the many courtesies extended to us, and have the honor to be,

Very respectfully yours,

KRUMBEIN & GILBERT

ARCHITECTS.

BILL OF MATERIALS

Necessary to Complete North and Central Wings.

NO.	PURPOSE USED.	SIZE.	LENGTH.	AMOUNT.
40	Suspension Rods.....	1 ¼"	12 ' 6 "	2,050 lbs.
40	Suspension Rods.....	1 ½"	10 ' "	1,328 "
40	Suspension Rods.....	1 "	7 ' 6 "	786 "
40	Tie Rods.....	1 "	6 ' 6 "	682 "
48	Suspension Rods.....	1 ¼"	12 ' 6 "	2,460 "
48	Suspension Rods.....	1 ½"	10 ' "	1,694 "
48	Suspension Rods.....	1 "	7 ' 6 "	944 "
48	Tie Rods.....	1 "	6 ' 6 "	918 "
20	Splice Plates.....	½" x 18"	10 ' "	400 "
24	Splice Plates.....	½" x 15"	8 ' "	480 "
48	Sturups.....	3 " x ½" x 10"		204 "
100	Sturups.....	3 " x ½" x 10"		595 "
40	Sturups.....	3 " x ½" x	7 "	120 "
				12,661 " Wrought Iron
NO.	PURPOSES USED.	SIZE.	LENGTH.	AMOUNT.
10	Tiebeams.....	10 " x 18 "	78 " 6 "	11,775 feet.
20	Principal Rafters.....	8 " x 10 "	32 "	4,267 "
10	Straining Beams.....	10 " x 15 "	16 "	2,000 "
20	Braces.....	8 " x 10 "	12 "	1,600 "
40	".....	6 " x 10 "	10 "	2,000 "
20	".....	6 " x 8 "	5 "	400 "
200	Rafters, common.....	2 " x 8 "	40 "	37,333 "
70	Purlins.....	6 " x 10 "	28 "	9,800 "
12	Tie Beams.....	10 " x 15 "	58 "	8,700 "
12	Straining Beams.....	6 " x 11 "	14 "	924 "
136	Common Rafters.....	2 " x 8 "	38 "	6,936 "
24	Principal ".....	8 " x 10 "	26 "	4,176 "
36	Purlins.....	6 " x 10 "	28 "	5,040 "
24	Braces.....	8 " x 10 "	12 "	1,920 "
48	".....	6 " x 10 "	10 "	2,400 "
24	".....	6 " x 8 "	5 "	408 "
				90,579 "

BILL OF MATERIALS—CONTINUED.

No.	PURPOSE USED.	SIZE.	LENGTH.	AMOUNT.
20	Columns	31" x 39 x 1 1/2" x 3-	39'	15,596 lbs. each, 311,920
50	Window Sills	See detail.		360 " 18,000
100	Brackets	" "		100 " 10,000
100	Brackets, under head.	" "		120 " 12,000
50	Window Caps	" "		1,095 " 54,750
350	Bed Moulding	" "		6 " 2,100
62	Caps	" "		900 " 55,800
20	Lintels	" "		1,200 " 24,000
48	Lintels	" "		1,000 " 48,000
1	Cast Girder	29' span.		5,400
20	Cast Blocks			20 " 400
				542,370

Brick	1,709,771
Ashlar, feet	456
Water Table	282
Lime, barrels	1,709
Cast Iron, pounds	542,370
Wrought Iron, pounds	12,661
Roofing Boards, feet	28,224
Plastering, yards	2,774
Plumbing, feet	20,000
Tin, feet	30,000
Estimated cost	\$110,894 31.

SPECIFICATIONS.

For a State Capitol to be erected at Salem, Oregon.

Materials and Workmanship to be used, with its appurtenance, as designed by Krumbein & Gilbert, Architects, Portland, Oregon.

The building is to occupy that portion of ground as selected by the Capitol Commissioners, the entire building, with its appurtenances, to be in accordance with the plans, elevations and sectional drawings as approved by the Capital Commissioners. The entire work must be executed and completed in the most substantial and workmanlike manner and to the full intent and meaning of this specification and the drawings herein referred to, whether expressed or implied, and to the entire satisfaction of the Superintendent in charge, who shall have full power to refuse any materials different from those described to be used, and to cause any unsound work to be taken down, altered and removed at the contractor's expense. No allowance will be made for any extra work, whatsoever, unless the cost of the same is agreed upon in writing between parties to this contract, or their legal representatives, previous to the execution

of the work. It must also be distinctly understood that this specification and the following plans and drawings shall form a part of the contract and be held equally binding upon the parties thereto. Any errors or discrepancies in any part of the specifications or upon any of the plans, drawings, elevations or sections submitted to the contractor, upon which proposals are invited, and which are intended to form a part of the contract, shall be construed in favor of the State.

The following is a memorandum of the plans and drawings referred to, viz:

- No. 1, Plan of Foundation.
- “ 2, “ “ First Story.
- “ 3, “ “ Second Story.
- “ 4, Front Elevation.
- “ 5, Transverse Section and Side Elevation.
- “ 6, Longitudinal Section.
- “ 7, Capitol Grounds.

These plans, drawings and specifications will be supplemented from time to time as may be necessary to a perfect execution of the work, by full sized drawings in detail, which shall be received and considered as equal authority with the memoranda of plans above recited.

The building to be constructed of brick, and iron, with stone foundation, the roof to be covered with tin, the walls to be of brick and the openings for doors and windows to have arches turned over them.

There will be two grand entrance ways, one on the west and one on the east front. The north and south end of the building will also have each one entrance.

Under each main entrance is an arcade of one arch and of sufficient size to receive and discharge goods on stone platforms, placed on a level with the basement floor.

The steps leading to the first floor are to be of cast iron and on the sides to have gas lamps of such pattern as the Commissioners may direct.

The following are the dimensions of the rooms :

BASEMENT FLOOR.

Board of Public Works.....	22 x 37	feet.
Land Department.....	22 x 37	“
Four Committee Rooms.....	30 x 30	“
Clerks' Rooms.....	20 x 46	“
Clerk's Room.....	16 x 30	“
Lunch Room.....	16 x 30	“
Office.....	20 x 46	“
Office.....	19 x 20	“
Geologist's Room.....	22 x 37	“
Geologist's Cabinet.....	30 x 77	“
Engineer's Room.....	22 x 37	“
Boiler Room.....	30 x 46	“
Fuel Room.....	30 x 30	“
Janitor's Room.....	19 x 20	“
Water Closet.....	13 x 15	“
Wash Room and Water Closet.....	12 x 26	“

FIRST STORY.

Governor's Room.....	20 x 46	feet.
Governor's Private Room.....	30 x 30	“
Secretary of State.....	30 x 47	feet.
Secretary's Private Office.....	12 x 15	“
Secretary's Vault.....	8 x 14	“

Treasurer's Room.....	30 x 30	“
Treasurer's Vault.....	9 x 9	“
Assembly Chamber.....	76 x 100	“
Senate Chamber.....	46 x 75	“
Two Committee Rooms.....	20 x 22	“
One Committee Room.....	13 x 26 ⁶	“
Two Committee Rooms....	19 x 20	“
Reporters' Gallery.....	8 x 18	“
Cloak Room.....	13 x 18	“
Wash Room and Water Closet.....	12 x 26	“
Water Closet	12 ⁶ x 12 ⁶	“
Open Court.....	54 x 54	“

SECOND FLOOR.

Supreme Court	47 x 54	feet.
Consultation Room.....	30 x 30 ⁶	“
Commissioners' Room.....	30 x 30 ⁶	“
State Library	69 x 75	“
Office	19 ⁶ x 20	“
Office	19 ⁶ x 20	“
Water Closet	8 x 26	“
Wash Room and Water Closet	8 x 26	“
Height of Basement Story.....	16	feet.
Height of First Story	22	“
Height of Second Story	19	“
Height to top of Building.....	71	“
Height to top of Dome	175	“
Outside Diameter of Dome.....	58	“

EXCAVATIONS.

For the foundation walls, a trench six feet wide and six feet deep is to be excavated all around the building, also trenches four feet wide and four feet deep, as shown on the foundation plan, also to be an excavation for a

drain running through the center, with branch connections extending to the west and east fronts of the building as far as the terraces, there to branch right and left, leading to each avenue and with such connections with the sewers or drains as the Commissioners may direct.

The excavated earth to remain on the premises, if required, and graded in such manner for laying out the Capitol grounds as the architects may direct.

FOUNDATION AND STONE MASONS' WORK.

All the foundation walls, from the top of the footings to be carried upward two feet and six inches above the ground level. And all work marked for stone shall be constructed by the contractor of the stone, as selected and decided upon by the Capitol Commissioners. They must also be of good size, and laid in strong cement and mortar made of the best lime and cement and clean, sharp gravel.

The footings for the walls must be one foot thicker than the walls placed upon them. All the footings throughout the buildings must be of concrete made of cement and brick or stone, broken to the size of a hen egg and thoroughly incorporated. After laying the foundation walls the earth must be filled in and rammed hard and solid against all walls that may require it, so as to make a perfectly solid finish, to prevent damage from rain or frost.

DRESSED STONE WORK.

At all the entrance ways will be laid square blocks of stone, surface dressed, to be laid diamond-shaped, and well bedded in cement, as will be hereinafter shown on details. There will be twelve pedestals of stone, each

four feet square, and four feet six inches high, with cap and base. Also four pedestals four feet wide, twelve feet long, and four feet six inches high, with cap and base.

Window sills are shown on elevations, and of the size shown on details.

BRICK WORK.

All the walls throughout the building shall be built of the best quality of brick, as furnished by the State, and to be laid in good mortar. All the corners and angles to be straight and plumb. The mortar used to be made of quick lime and clean sharp pit sand, and must be mixed at least six days before using.

The filling to be laid in good, strong cement mortar, made with the best lime and cement, and of equal proportions, when dry and strong, well-screened gravel. The outside of the exterior walls to be built of the best brick of a uniform color, and laid in the best manner. The inside facings of these walls, and the facings of all partition and division walls, to be of good, straight, hard brick, laid in cement mortar, and to have the joints neatly struck.

The filling in of good salmon brick.

Arches shall be turned over all doors and windows and arcades, as shown on the plans and sections.

The exterior walls of the basement story shall be two feet thick. First story twenty inches thick, and of the second story twenty inches thick. The division walls of the several stories to be of dimensions as shown on the plans and sections.

The necessary flues to be built in the walls, as may be hereafter directed, and to be well pargetted and topped out as shown on the section drawing.

The pilasters will be of such dimensions as shown on plans and elevations, to rest on iron bases. The caps also to be of iron of the composite order.

The supporting walls to be carried up of the dimensions shown on the plans and sections for the support of the dome.

The pilasters and bases for windows to be as shown on the plans and elevations, and to be capped with iron of the composite order, shown on the elevations.

And all inside panel work to be executed in conformity with the patterns as furnished for the moulded brick, all of which will be furnished full size.

The ventilating plates will be set in their respective places, under window sills as the work progresses, and the opening for same to have a plug to keep all dirt and debris from breaking off or marring the pargetting; the same in all flues, each and every flue, and down pipe-openings to be pargetted in the best possible manner. All projections or workings in brick to be brought to the exact measurement, as shown in full sized details. No deviations from this will be allowed under any circumstances whatever.

The steps leading to the west and east entrances, to be of cast iron, of the size shown hereinafter in detail, $7\frac{1}{2}$ inch rise and 14 inch tread.

ROTUNDA RAILING.

There will be an iron railing of a neat, ornamental pattern, with posts, together with neat gas lamps, standards around the openings in the first and second stories; each lamp standard to have four jets, and facing down the hallways.

SKY LIGHT.

There will be a skylight placed in the dome, as shown on sectional drawings. The glass to be moulded to the form, as shown in section, to be back-braced by wood, and the iron firmly bolted thereto.

At the crown to have ventilating openings, as shown on section. The whole to be supported and trussed to main dome supports.

CARPENTER WORK, FRAMING AND TIMBER WORK.

All the framing to be done in the best and most workmanlike manner, and agreeable to the drawings made for the same. The floor joists are to be framed and set 16 inches from center to center, as shown on the drawings, and bridged with three or more sets of bridgings, as may be directed.

WINDOWS.

All the window frames to be box-framed, as shown on detail drawings. All the sashes to be $2\frac{1}{4}$ inches thick, and to have counter check rails. All to be hung with weights and cords, with Blake's solid axle pulley, all to be of the best quality.

All the glass throughout the building to be of the best solid plate glass, to be well bedded in putty, back puttied, and the putty painted. Frames, sash architraves, and all other finishings connected with the windows are to be wrought to the form and dimensions as indicated in the drawings. All frames are to be made with boxes, tongued and grooved together: to have a parting strip between the sash, said strip to be mitered together at the upper angle of the frame.

The pocket-pieces, or openings for putting the weights into their places, are to be in lengths proportionate to the size of the window. They are to be cut out of the inside, one-half of the hanging style, making the vertical joints under the parting strip and inside stop. There will also be dome lights, as shown on sections and elevations, and of the size and form as hereinafter furnished on detail.

All double windows to be as shown on detail. All window frames to be primed before putting up.

WINDOW CASINGS.

The casings are to be of the size and dimensions as shown on details, and to have ornamental caps and mouldings.

DOORS.

The doors of the east and west entrances, the Assembly chamber, and Senate chamber, are to be made from Black Walnut, and of the design as furnished by the architects, to have semi-circular heads, the casings to be ornamented as shown on drawings. These doors are to be double with six panels in each leaf. The transom lights to be semi-circular and glazed with fire lights of the best quality of plate glass. All other doors are to be made of Walnut, and as shown on details. All the doors to be hung with three close joint Butts, put on with screws not less than two inches long.

All the locks to be of such a pattern as selected by the Commissioners, and to all offices shall be furnished duplicate keys of the Yale patent.

STAIRS.

There will be Stairs leading to each side of the hallway,

in the main court, 7 inch rise, 12 inch tread, and at the landing to turn into one grand stairway leading to the second floor.

Also stairway leading from the first story to the basement floor. The work to be as hereinafter shown on detail. Provisions are made that in case a stairway is needed from the second story to dome, at any future time, it can be done without interference of plans as now drawn.

GALLERY.

There will be a gallery, as shown on plans and sections, to seat four hundred people. Also a Reporters' Gallery, back of the Speaker.

DOME.

There will be one central tower, or dome. Height of same to statue, 175 feet; diameter, 54 feet.

There will be a railing around the dome, of the design as shown on the drawings. There will also be doors leading out to the balcony of the same.

The cap, or dome proper, will be covered with tin, with raised seams. Also to have gutters for carrying off water. The bracings and inside woodwork of the dome to be executed as shown on drawings.

ROOF.

The roof to be framed and trussed, as shown on plans and sections. Suspension rods to be not less than $1\frac{1}{2}$ and $1\frac{3}{4}$ inches diameter. Bolts one inch diameter, and all rods to be provided with suitable cast iron washers and wrought iron nuts.

The roof is to be covered with matched Fir plank, well

spiked, and then to be covered with tin of the best quality, and to be laid with raised seams. The boards to be of uniform width and lap six inches each; these are to be laid into wall two inches and four inches on the roof, to prevent leakage.

The channel ways are to be leaded with sheet lead, not less than $3\frac{1}{2}$ pounds to the square foot, and of suitable length to prevent leakage.

CORNICES.

The cornices are to conform to the drawings in detail in every respect, and no deviation whatever allowed. The brackets also to conform to details.

FLOORS.

All the flooring to be of Fir $1\frac{1}{2}$ inches thick, and not to exceed $3\frac{1}{2}$ inches in width, tongued and grooved, laid break joints in every course, and to be blind nailed. The grand court to be marble tiled, and dove-tailed.

DEAFENING.

Floor may be deafened as follows, viz: First,—By nailing strips upon the sides of the joist to support deafening boards, and filling in with mortar, in the usual manner. Second,—By laying strips about three inches wide upon the floor lining, to be thoroughly spiked down, and then fill with mortar between the strips, and lay floor as before described.

The boiler and fuel rooms are to have a brick flooring.

FURRING.

The walls are to be furred with strips $1\frac{1}{2}$ x 2 inches,

placed 12 inches from center to center, and well spiked, The ceilings are to be cross-furred, under the joist with 1 x 3 three inch strips 12 inches from center to center, and made even and level to receive the lathing.

LATHING AND PLASTERING.

All the walls are to be lathed with good strip lath $1\frac{1}{2}$ inches wide, and placed $\frac{3}{8}$ inches apart, in no case are more than eight pieces to be laid together, without breaking the butt joints.

The ceilings of all the walls are to be plastered with three coats of mortar, the last coat to be hard finish, made level and well smoothed.

The walls are to be plastered with two coats of brown mortar, and a third coat of hard finish. All to be done in a workmanlike manner.

All the brown mortar is to be made of good quick lime, mixed with suitable quantity of coarse bank sand, and, with the first coat of mortar applied, is to be added as much long plastering hair, as will permit good application.

The mortar must be made at least seven days before using. The cornices of the rooms to be as shown on details and sections.

WAINSCOTING.

The Halls, Senate, and Assembly Chambers, and Supreme Court Room are to be wainscoted with Black Ash, and pannelled, capped, and based as shown on drawings. The whole to be thoroughly sand-papered before being put up. All Black Walnut and Black Ash work to be oiled with two good coats of pure linseed oil. The last coat of boiled linseed oil. All nail holes to be

stopped with putty, after priming the knot or gum spots; to be knotted with knotting composed of gum shellac and alcohol. All rooms to have a base board of 8 inch plinth, and 3 inch moulding.

WATER CLOSETS.

The wood-work to be of Fir. They are to be provided with patent basins, water and soil-pipes, and stench-traps complete, and all things necessary for the fitting up a patent Water Closet. The soil pipes are to be of sufficient size to carry off all matter from the basins. The Urinals are to be fitted up as shown on the plans and of the number shown. There will also be marble-top Wash-basins, three in each Washroom, with proper pipe connections and drains, also to be one in the Governor's private room, one in the Treasurer's room, and one in each of the Clerks' rooms.

PAINTING.

To paint all the external and internal wood and iron work, usually painted with three good coats of Oil and Lead, and such color as may be directed by the Superintendent in charge.

INCIDENTALS.

To provide and fix all necessary linings, templets, blocks, stops, casings, beads, springing, fields, angle, staffs, grounds, backing, furring, copings, skirtings, bases and other finishings incidental to carpenters' and joiners' work. Together with all grooving, rebating, framing, tongueing, beading, mitreing, and other workmanship for completing the work.

MATERIALS.

All the materials of every kind used in the construction of this building shall be of good quality, and as shall be approved by the Capital Commissioners, and directed to be used by the person superintending the work. No unsound or knotty timber shall be used in finishing the exterior or interior of the building. Neither shall there be used in the above mentioned finishings, any lumber that has not been thoroughly seasoned, dried, and kept dry until put up.

No brick shall be used on the outside work except those of a uniform color, and such as will not decompose by the action of the weather.

MENSURATION.

If the work be done by the piece, the Stone work will be measured and paid for by the yard of twenty-seven cubic feet. All cut stone by the superficial foot, measuring only the surface dressed. Lath and plastering by the square yard of nine superficial feet, and floors and roofs by the square of one hundred superficial feet. Brick walls will be measured and paid for by the thousand, calling every cubic foot $22\frac{1}{2}$ bricks. Consequently a wall that is in thickness the length of one and one-half bricks, will be called a twelve inch or foot wall. One the length of two-bricks, one and one-third feet, etc.

In paying for the brick and stone, nothing but the solid contents of the wall will be measured, but in paying for laying, one-half of all ordinary openings, such as common sized doors and windows, will be added to pay for setting sills, caps, and frames of the same.

Doors or openings of an unusual size will not be meas-

ured as brick work unless arched over, in which case, such portions of the openings will be allowed as the Superintendent judges discreet and proper to fairly compensate for the extra expense of laying it.

GENERAL.

It is understood that the whole of the work mentioned in the foregoing Specifications, is to be performed in a good substantial and workmanlike manner, according to plans and detailed drawings of the same, which will be furnished from time to time, as the work progresses, and to the full and entire satisfaction and acceptance of the Superintendent in charge, and all the materials to be the best of their respective kinds, and shall be subject to acceptance or rejection by the Superintendent in charge of the work.

And it is also expressly understood that the plans, specifications and detailed drawings are intended to cooperate, the one with the other, so that any work mentioned in the specifications, and not shown on the drawings, or shown on the drawings and not mentioned in the specifications, the same are to be executed and performed, as though they were mentioned in the specifications and fully set forth upon the plans and detail drawings, and to this end they are to be considered as forming a part of, and they do hereby form a part of this contract.



SPECIFICATIONS

Of Materials and Workmanship to be used in the Construction of the Iron Work for the State Capitol, Salem, Oregon.

The drawings and such writing, interlineations, figures and details as may be upon them, are to be considered a part of and illustrating these specifications.

In the plans, "Blue," designates iron; "Red" brick; "Yellow" wood; which is to be the standing guide for the contractor to work from.

Contractors are requested and expected to carefully examine the contents of these specifications, as every word is to remain in full force.

DUTIES OF THE CONTRACTORS.

They shall be held strictly to execute such work and to use such materials as hereinafter described; and in all cases where the drawings are figured, the figures must be taken by them as the given dimensions, without reference to what they may measure according to the scale.

They will be further held to submit, as to the character of the materials used and the work done, to the arch-

itects, and to procure from them all the necessary interpretations of the designs and plans.

And all necessary certificates regarding the acceptance of the work and for payments thereon. Also for any deduction which may result in delay, by not having the work completed by the time specified.

Any payments made on work during its progress, on account of the contract, shall in no case be construed as an acceptance of the work executed; but the contractors shall be liable to all the conditions of the contract until the work is finished. The contractors being bound, in all cases, to make good all improper work and materials, upon being directed so to do, by a written notice from the architects, at any and all times.

But if the contractors, after having been directed as above, should refuse or neglect so to do, they shall not only suffer a deduction from the contract price of the difference in value of proper and improper work and materials, but shall be held liable for all damages of whatever nature or kind that may result from such cause. The above provisions to apply in the same way to all materials or work used, made or fixed without the knowledge of the architects, and not approved by them.

The Commissioners shall be at liberty, if in their judgment the case requires, to replace the same, and make good every part at the cost and charge of the contractor.

DAMAGES.

In case of delay, by not having the work completed by the time specified in the articles of agreement herunto annexed, damages to the amount of seventy-five

dollars (\$75,) a day will be deducted from the contract price.

The following as a list and a description of the work required to this contract:

ON DETAIL SHEET NUMBER ONE.

- 46 Keystones.
- 46 Window Caps.
- 92 Ventilating Plates.
- 92 Pilaster Caps.
- 46 Window Sills.
- 44 Pilaster Bases.
- 12 " " Outside Corner.
- 8 " " Inside "
- 1 T-Girder, Cast Iron.
- 6 $\frac{3}{4}$ x 16 $\frac{1}{2}$ Bolts and Nuts.
- 24 Washers for Bolts and Nuts.

DETAIL SHEET NUMBER TWO.

- 4 Columns, sixteen feet, four inches x fourteen inches x sixteen inches.
- 4 Pilaster Caps, seventeen and one-half inches x fifteen and three-fourths inches x eleven and one-half inches x one-half inch x three-eighths inch.
- 4 Panel Ornaments, nineteen inches diameter x three-eighths inch.
- 4 Rosettes, six and one-half inches x six and one-half inches x one-half inch.
- 2 Door Sills, three feet, six and one-half inches x ten

- feet, seven and one-half inches x seven-eighths inches.
- 2 Risers, ten feet, one and one-half inches x four inches x one-half inch.
- 2 Keystones for Doors.
- 2 Lintel Plates.
- 642 Ft. Bed Mouldings.

KEYSTONES.

There will be forty-six (46) keystones, of the design and pattern as shown on the drawings and details of Sheet No. 1. Also two (2) keystones of the design and pattern shown on Detail Sheet No. 2, (for dimensions see details), and to have anchor lug to each one. The ornaments that are to be attached must be solidly set in their places, and the carved work must present a neat and uniform appearance.

WINDOW CAPS.

There will be forty-six (46) window caps as shown on Detail Sheet No. 1, and of the design and pattern as shown on the same. Great care must be used in having all the angles and curves and returns uniform and regular, and put on as shown. Three anchor-lugs equally divided on its length. The bottom of the cap must be straight, so as to make a smooth and uniform joint on the bed moulding, its entire length.

VENTILATING PLATES.

There are to be ninety-two (92) ventilating plates, of the design and pattern as shown on Detail Sheet No. 1.

On each end of the scroll, cast anchor lugs. The centre-piece to be clear and perfectly smooth in its openings, so that the mouth of the ventilating-box can abut against the same, and form a joint. The carved work must be executed in a neat and uniform manner.

PILASTER CAPS.

There are to be ninety-two (92) Pilaster Caps for the Pilasters on each side of the windows, of the design and pattern as shown on Detail Sheet No. 1. Its different members must conform strictly to the drawings, and all mouldings and leafs are to be carved uniform and true, and to present a neat appearance. All work attached thereafter, to be solidly fastened to its proper position.

WINDOW SILLS.

There are to be forty-six (46) Window Sills, each to be 6' 1" long, and of the depth as shown on the section, and 7-16 thick. The surface must be smooth and straight, so as to take a straight edge. All raised lumps to be smoothed off, and on the ends the angle is to raise to meet the bevel of the brick-work, as shown.

PILASTER BASES.

There are to be forty-four (44) Pilaster Bases of the size and dimensions as shown on Detail Sheet No. 1, with anchor lug. Also twelve (12) Outside Corner Bases, as shown on Details No. 1. Also eight inside corner bases, four right, and four left. These all have the same depth of section and return. The corners must be true, and all the mouldings smooth and to be free from all defects.

GIRDER.

There will be one (1) Girder of the T pattern, 14 feet long, top flange $14 \times 1\frac{1}{2}$, and depth of section $17\frac{5}{8}$ inches; and holes to be drilled for $3\frac{1}{4}$ inch bolts. Also six bolts $\frac{3}{4}$ diameter and $16\frac{1}{2}$ long, with nuts proportional together with washers.

COLUMNS.

There will be four Columns, 16 feet 4 inches long, 14 inches diameter at the neck, and 16 inches diameter at the bottom of the shaft; the columns to be $\frac{7}{8}$ of an inch thick at the base, and $\frac{3}{4}$ of an inch thick at the neck through the flutes, and as shown on the Detail Sheet No. 2. They must be perfect, straight and plumb, and exact in length, so that the level can be used, from cap to cap, in its span, when in position. All the flutes and mouldings leaves on the caps must be uniform, and show the skill of a substantial and complete piece of work, and to have anchor lugs as shown, and two of each in the length of the column.

PILASTER CAPS.

There will be four (4) Pilaster Caps for the door pilasters, and of the pattern and design, as shown on Detail Sheet No. 2. Dimensions are as follows: $17\frac{1}{2} \times 15\frac{3}{4} \times 11\frac{1}{2} \times \frac{1}{2} \times \frac{3}{8}$. Particular care must be taken to have a neat connection where it abuts or touches the columns, and on the section it gives the size of the columns at that point. To insure safety it will be the better plan to have the pattern fitted before hand, so as to complete the joint properly. After casting, try the cap, and if any

work is required to complete the joint, have it done before shipping.

PANEL ORNAMENTS.

There will be four (4) panel ornaments of the design as shown on Detail Sheet No. 2, nineteen inches in diameter x $\frac{3}{8}$ thick.

ROSETTES.

There will be four (4) rosettes for the sunk panels of the pedestals, on which the columns rest $6\frac{1}{2}$ x $6\frac{1}{2}$ section with anchor lugs to each.

DOOR SILLS.

There will be two (2) door sills 3 feet, $6\frac{1}{2}$ inches x 10 feet, $7\frac{1}{2}$ inches x $\frac{7}{8}$ inches, and to be of the design and pattern as shown on full sized detail of Sheet No. 2. There will be three ribs across the sill and one lengthways. Thickness of plate, $\frac{5}{8}$ of an inch through the flute and channels, and $\frac{7}{8}$ of an inch through the diamond and scroll work. And on the lip of the tread to be straight and smooth, so as to make a good joint and bearing for the risers the entire length.

RISERS.

There will be two (2) risers 10 feet $7\frac{1}{2}$ inches long, four inches high, and $\frac{1}{2}$ inch thick, and of the design shown.

LINTEL PLATES.

There will be two (2) lintel plates, 14 feet $1\frac{1}{2}$ inches long, 16 inches wide, 1 inch thick, with arched rib, whose

cross section at the center is 4 inches in height, $\frac{3}{4}$ inches thick at top, and $1\frac{1}{2}$ inches at the bottom, and tapers to the plate at the ends.

BED MOULDING.

There will be a bed moulding, as shown on the drawings, and under the window caps and door caps, where it connects with the return from the keystone; it must be made to have a good joint, and so fitted, before leaving the works, and each piece marked for its respective connections. There will be two legs cast, as shown, to secure it to its proper position on the wall; all of the moulding must be straight and uniform. The ends, where they abut, to be even and true, and of the size and dimensions, as shown on the details.

There are to be four (4) columns of the order, as shown on the plans and details, and of the following dimensions: three-quarters ($\frac{3}{4}$) of an inch thick, and eighteen (18) inches in diameter at the base, and sixteen (16) inches in diameter at the neck, with ornamented caps, the plinth to be two feet six inches (2' 6") square, and three-quarter ($\frac{3}{4}$) inches thick; the columns, when finished, to be sixteen feet, one and one-half (16' $1\frac{1}{2}$ ") inches high from the bottom of the plinth to the top of the cap. There will be four (4) ribs supports five-eighths ($\frac{5}{8}$) of an inch in thickness on each side of the pedestal, and, as shown on the details, the panels on the sides of the pedestal, with its details of mouldings, to conform in every respect to the details as furnished. The ends of the columns must have a perfectly true bearing, and if necessary, to be faced up, no packing to make a bearing will be allowed whatever; all the work on the columns must conform

strictly to the drawings, and must be perfectly true and plumb.

DOORS, SILLS AND RISERS.

There will be four door sills of the following dimensions: length of sill, six feet eight inches (6' 8"); seventeen (17) inches wide, and three-quarters ($\frac{3}{4}$) inches thick, and to be patterned, as shown on the details, to have two plugs and two ribs for bedding, three-quarters ($\frac{3}{4}$) inches thick, and four (4) inches long. There will also be eight risers, of the dimensions as shown on the details, and to be recessed, as shown, to receive the treads; they are to be one-half ($\frac{1}{2}$) inch in thickness, with two ribs each for bedding.

LINTEL PLATES.

There will be sixty-two lintel plates of the following dimensions, and as shown on the plans and details:

NUMBER.	FEET.	INCHES.
4.....	12.....	4
4.....	14.....	2
8.....	12.....	7
20.....	12.....	5 $\frac{1}{4}$
4.....	11.....	0
12.....	13.....	0
4.....	9.....	0
6.....	12.....	9 $\frac{1}{2}$

The plate to be one (1) inch thick, twelve (12) inches wide, and at the cross section line in centre, the rib will be four (4) inches high, one and three-fourths ($1\frac{3}{4}$) inches at the base, and three-fourth ($\frac{3}{4}$) inches thick at top, to run out at ends.

GENERAL REMARKS.

It must be distinctly understood that each and every piece of iron-work executed for this contract, and mentioned in these specifications, shall and truly be, in quality and workmanship, the best of its respective kind. All corners, angles, swells, flutes, joints, bearings, and connections, each and every one, to be made true, plumb, straight and level, and wherever a projection or uneven surface exists, that is exposed to view, it must be made even, and the entire work must be thoroughly cleaned before the delivery of any work whatsoever. Notice must be given to the architects that the same is ready for inspection; if then satisfactory, to be painted one good coat of fire-proof paint, and shipped and delivered on the grounds of the new State Capitol Building, Salem, Oregon. Any work that is not executed in conformity with these specifications and drawings, will be rejected promptly by a written notice from the Architects, and the parties feeling aggrieved, can bring the matter before the Board of Commissioners for settlement, and to this end they are to be considered as forming a part of, and they do hereby form a part of this contract.

SPECIFICATIONS.

Of Materials and Workmanship to be used in the Construction of the Vaults for the State Capitol, Salem, Oregon.

SECRETARY OF STATE'S VAULT.

There will be one vault constructed for this Department, of the following dimensions: seven (7) feet by thirteen (13) feet and four (4) inches, by ten (10) feet high, and to crown one, (1) foot on arch, said vault to be made of the best American Plate Iron, one quarter ($\frac{1}{4}$) inch in thickness, and to have twenty (20) arch bars on top of said vault; and all to be riveted with $\frac{3}{8}$ inch rivets, and to be $3\frac{1}{2}$ inches from center to center, the opening in doorway will be 2 feet 10 inches by 7 feet. There will also be a a four-inch air space left around the entire vault. And four air openings in the plate, as shown on the drawings, also put in angle bars, three and one-half ($3\frac{1}{2}$) inches wide in all corners. Also lap plates, three and one-half ($3\frac{1}{2}$) inches wide, with doors and back complete, of such pattern as may hereinafter be selected.

STATE TREASURER'S VAULT,

Ten (10) feet and four (4) inches by ten (10) feet ten

(10) inches, by ten feet x (10) high, each to crown one (1) foot, door two (2) feet ten (10) inches by seven (7) feet. Said vault to be made of the best American Plate Iron, $\frac{3}{8}$ of an inch thick, and two and three feet wide, to have angle irons three and one-half ($3\frac{1}{2}$) inches wide in all corners, and all plates covered with lap bars three and one-half ($3\frac{1}{2}$) inches wide, and to be securely riveted with the best three-eighths ($\frac{3}{8}$) inch rivets; rivets to be placed not to exceed four (4) inches from center to center. Also furnish fifteen (15) arch bars, having arch of twelve (12) inches in the clear; this to be set with a four inch air space.

The entire work must be of the best of its respective kind, and to conform strictly to the drawings and specifications, and to be set up and placed in position.

After completing and placing in position the said vaults, they must receive each a coat of fire-proof paint.

Payment to be made on completion and acceptance of the work, together with certificate of acceptance by the Architects, and endorsed by the Board of Commissioners.

SPECIFICATIONS

Of Materials and Workmanship to be used in the Construction of the Girders designed to be used in the Construction of the Rotuunda and Senate Chamber of the State Capitol, Salem, Oregon.

The entire work must be executed and completed in the most substantial and workmanlike manner, and to the full intent and meaning of this specification, and the drawings herein referred to, whether expressed or implied, and to the entire satisfaction of C. E. Tilton, of New York City, acting by order of the board of Oregon State Capitol Commissioners, to represent them at that place, who shall have full power to refuse any materials, different from those described to be used, or to have any unsound work altered at the contractor's expense. No allowance will be made for any extra work whatsoever, unless the cost of same, previous to its execution is agreed upon in writing, between the parties representing this contract, and it must be distinctly understood that this specification and the following plans and drawings shall form a part of this contract and be held equally binding upon the parties thereto; any errors or discrepancies in any part of this specification, or upon any of

the plans, elevations, sections, or other drawing, submitted to the contractor, and which are intended to form a whole or a part of this contract, shall be construed in favor of the State of Oregon.

The following is a memoranda of the plans and drawings referred to, viz:

A—Plan of Square.

B—Section of girders for same.

C—Section of girders at D. D. D. D.

D—Section of wooden girders for Senate Chamber.

E—Plan of Senate Chamber.

F—Position of wooden girders joined to iron girders.

The square, as indicated on the plans, must be sustained by rolled iron beams, formed into box girders, supported by brick walls, and where joined by wooden girders, allowance to be made for supporting the same, and firmly fastening to the iron girders. There will be five (5) girders required, two of them fifty-seven (57) feet, four (4) inches long, each of them to have two (2) top plates one-half ($\frac{1}{2}$) inches thick, and eighteen (18) inches wide, and each to have two (2) bottom plates, one-half ($\frac{1}{2}$) inch and eighteen (18) inches wide. Web of girders to consist of two (2) plates, each one-half ($\frac{1}{2}$) inches thick and twenty-five (25) inches wide. Width between web plates, nine (9) inches and from outside to outside of web plates, ten (10) inches. Angle plates for both top and bottom of these girders to be one-half ($\frac{1}{2}$) inch thick, and four by four (4 x 4) inches. Those supporting joints to be one-half ($\frac{1}{2}$) inch thick, and four by six (4 x 6) inches wide, and to be firmly riveted to the web and places.

Where the braces rest on the girders as shown at "E. E. E. E." allowance to be made for the toe of the braces to abut against them.

There are also to be three (3) girders, as shown on Section D., each having two (2) top plates, three eighths ($\frac{3}{8}$) inch thick, and eighteen (18) inches wide, and two bottom plates, three-eighths ($\frac{3}{8}$) inch thick, and twenty-five (25) inches wide. The angle plates of these to be three-eighths ($\frac{3}{8}$) inch thick, and four by four (4 x 4) inches wide, and the angle plates of same for supporting joist to be one-half ($\frac{1}{2}$) inch thick, and four by six (4 x 6) inches. These three (3) last described girders to be forty-eight (48) feet and four and four-fifths (4-4-5ths) inches long, with allowance made for the support of panel wooden girders of same depth of section, and at positions as indicated on the Drawings, as shown on Plan of Senate Chamber, marked "F." All the iron to be used in the construction of these girders, as herein enumerated to be of "A No. 1" quality, and to sustain the calculated load, as given by Consulting Engineer, and for the girders used in the square, the deflection not to exceed three-eighths ($\frac{3}{8}$) of an inch, and for the Senate Chamber, the deflection not to exceed one-fourth ($\frac{1}{4}$) of an inch.

Each piece to be numbered, including all rivets, batens, and other parts to be afterwards joined, and the whole to be completed ready to place in position.

J. KRUMBEIN,

W. G. GILBERT,

ARCHITECTS.