

THE BRANCH INSANE ASYLUM, NAPA, CALIFORNIA.

An asylum for 500 insane patients being required for Napa, designs were invited in competition, and from those submitted the *projet* we now illustrate was selected, and will be carried out. The architects are Messrs. Wright & Sanders. The architects say they have worked on the principles laid down for the construction of hospitals, at the convention of medical superintendents of American institutions for the insane, in 1871.

The new asylum is intended to face the west, and consists of a centre building with wings extending on each side, and exactly alike—the divisions for the sexes being equal; twelve wards on each side, exclusive of the infirmaries, and one ward on the forth floor of the centre building, and has accommodations for 500 patients. The style of architecture is Domestic Gothic. The building will accommodate:—

Females.

First floor, four wards.....	74
Second floor, four wards.....	74
Third floor, three wards.....	60
Fourth floor, one ward.....	20
	— 228

Males.

First floor, four wards.....	74
Second floor, four wards.....	74
Third floor, three wards.....	60
Fourth floor, one ward.....	20
Fourth floor, centre building, one ward.....	44
	— 272
	500

The outside walls of the basement story were designed to be built of stone from the quarries adjoining the asylum property; but it has been determined to use pressed brick facings and stone dressings. The walls will be 16 in. thick, laid hollow, with an air space of 4 in.; the interior walls on the corridors will be 16 in., to leave room for the ventilating and heating flues, the division walls between the single rooms will be 9 in. thick. The roof will be framed in wood and prepared for slate or medallion metal. The plastering will be done directly upon the brick walls, and the floors will be deafened with spent ashes and mortar, with view of rendering the building as nearly fireproof as possible, without going to the expense of iron joists and brick arches. The circular towers at the intersection of the wards are to be built upon a system of fireproof construction with stone staircases and well-holes built up solid. The floors will be on the Dennett arch principle, and paved with artificial stone. The doorways connecting with the wards on the different stories, are all to have stone sills with iron doors, in addition to the ordinary wooden ones. The upper stories of the towers are intended for water-tanks.

The basement, about 5 ft. above the ground, contains the hot-water boilers for supplying the wards, the tramway, which extends through the basement of every ward—and also to the basement of the laundry,—dumb-waiters from the kitchen and laundry, with the other dumb-waiters for supplying the dining-rooms on the different floors, the clothes and dust-shafts, also the hot-air chambers for heating the building, and a number of storerooms under the kitchen wing.

On the ground floor, the main centre building is divided by the centre hall into two equal parts, that to the left contains the apothecary's shop, superintendent and secretary's offices, with private staircase communicating with the superintendent's apartments above, and in the rear the steward's office and men's reception-room; while that to the right contains the public parlour, library, and officers' dining-room, and immediately behind these the matron's room and ladies' reception room.

The second floor is reached by the main centre staircase, and is appropriated exclusively to the use of the medical superintendent's family. It contains a parlour, sitting-room, library, dining-room, and three bedrooms, water-closet, bath-room, dumb waiter, and three clothes-closets, and in the rear four large spare rooms, and also a private entrance and staircase from the ground floor.

Each ward has connected with it a day-room, a corridor, single lodging-rooms for patients, an associated dormitory

communicating with a chamber for two attendants, a clothes-room, a bath-room, a water-closet, a lavatory, soiled-clothes shaft, closet for brushes and buckets, a drying-closet, a dust-flue and two fire-proof staircases to each, so that the patients will be able to reach the enclosed yards in the rear, or the pleasure-grounds in front, without communicating with the other wards. Every room in the building has a flue communicating with the fresh-air duct for warm or cold air, with ventilating-flues terminating in the various ventilators in the roof of the building. The water-closet, lavatory, and bath-room open from a small passage, and not from the main corridor; and the bath-room and the lavatory have communicating door, in order that the latter may serve on bathing-days as dressing-room to the former.

The wards for excited patients are to have on one side of the corridor a conservatory for flowering plants, birds, &c, and a water fountain in the centre of each.

Laundry, bakery, and engine-house are placed in a detached structure 100 ft. to the rear of the hospital buildings, and containing on the first-floor the engine-room, workshop, bakery, bread room, store-room, foul linen-room, mending-room, laundry, with staircase to the drying and ironing room on the second-floor.

In detached buildings in the rear of the last wings, but connected by means of covered corridors, infirmaries are provided for each sex.

It is proposed to light the building with gas, to be manufactured from gasoline, without the use of fire, the works to be placed in a brick building adjoining the dead-house.

Hydrants are to be placed on the landings of each staircase throughout the building, and supplied direct from the main, with hose constantly attached, to be used in case of fire.

The boilers for heating the building are placed in the detached building in the rear of the hospital, and are also used for driving the machinery, cooking, washing, and heating the hot-water boilers in the basement for supplying the baths in the different wards.

It is also proposed to have in the basement story hot-air chambers, built in brick, to receive the steam-chests, which are supplied with steam from the boilers, with direct flues leading from them to the wards above.

With a view thorough ventilation, it is proposed to place above the collars a horizontal galvanized iron tube, to receive the vitiated air through separated vertical flues from the different wards below, terminating in the towers and ventilation turrets.

Downward currents of air, for the ventilation of the water-closets, urinals, bath-tubs, and sinks, are to be secured through an arrangement of pipes terminating in the fire-boxes of the boilers.

In the rear of the building there are three private yards on each side connected directly with the adjacent wards, for the use of the patients, with large alking sheds, and water fountain in the centre of each.

The stipulated cost is 600,000 dollars.

The smallest circular saws in use are those employed in the manufacture of gold pens, and are a-half inch in diameter. It is said that some of the sarcophagi of ancient Egypt bear the marks of having been hollowed out with tools of the crown or cylinder saw order.

HANDSAWS in America and England have the teeth pointed from the handle, while in Asiatic countries and in Greece they are made with teeth pointed the other way. The latter must be operated by pulling them, the former by pushing. In delicate work, and where very fine small saws are used, the Eastern saw is the best. The Orientals differ from us in setting the teeth of the saw also. They turn a group of a dozen one way, and the next group the other, while we alternate one on one side, the next on the other.

The ancient Egyptians made saws of bronze, and applied them to cutting out planks from logs. These were single-handed like those now used by carpenters, and the log was placed on one end, and fixed firmly in the ground. The sawyer then began operation, sawing downwards, and dividing the log into planks, but the process was very slow. The Greek saws were fixed in a frame, very much as the contrivance used in modern times.