

Dec. 21, 1926.

D. F. YOUNGBLOOD

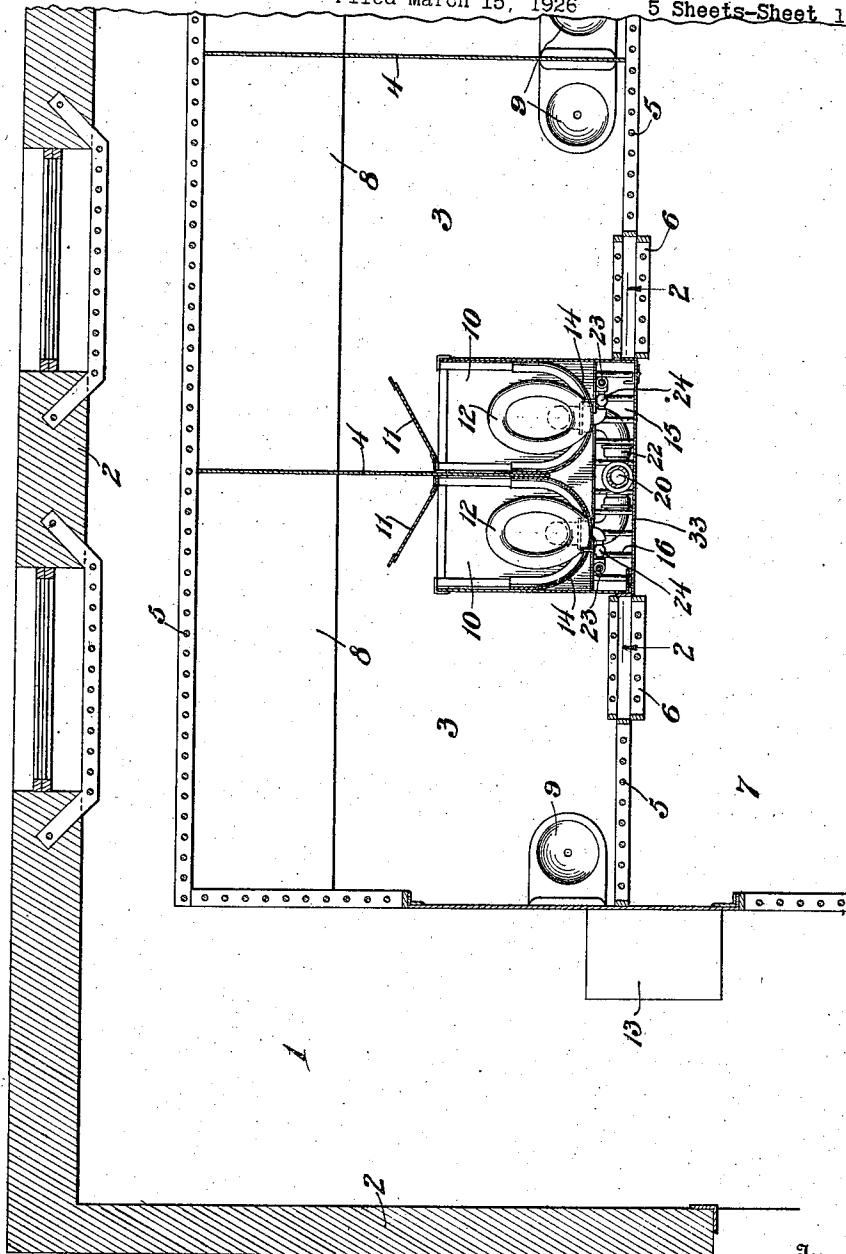
1,611,261

SANITARY VENTILATING AND PLUMBING SYSTEM

Filed March 15, 1926

5 Sheets-Sheet 1

Fig. 1.



Witnesses

Chas. L. McDonald
E. N. Lovell

By

Inventor
David F. Youngblood
E. G. Siggers

Attorney

Dec. 21, 1926.

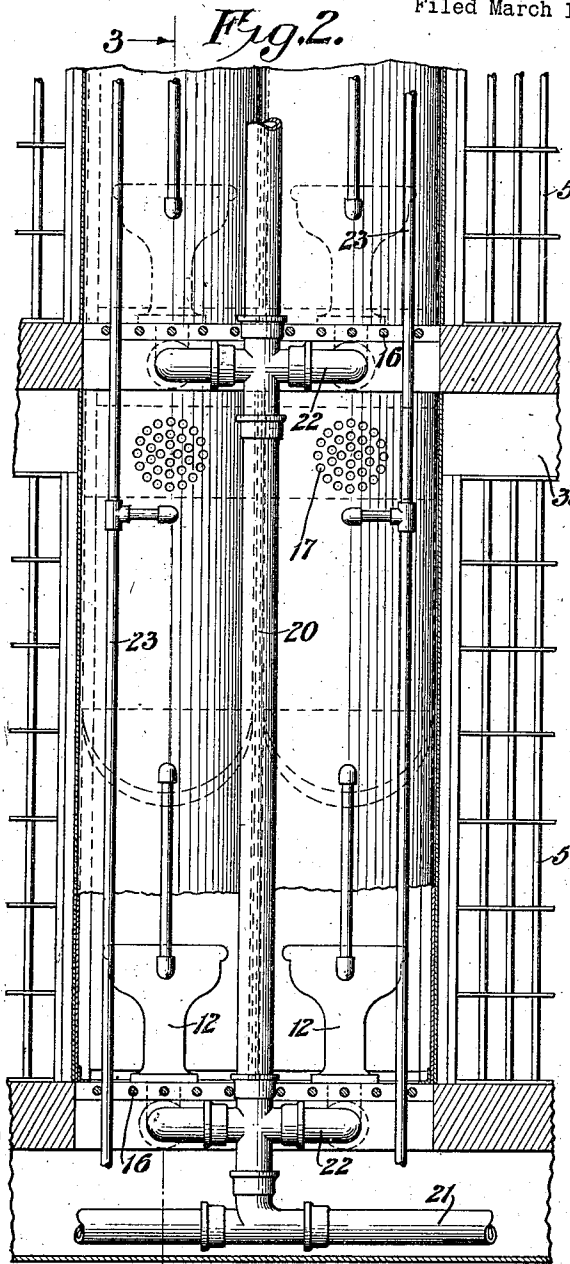
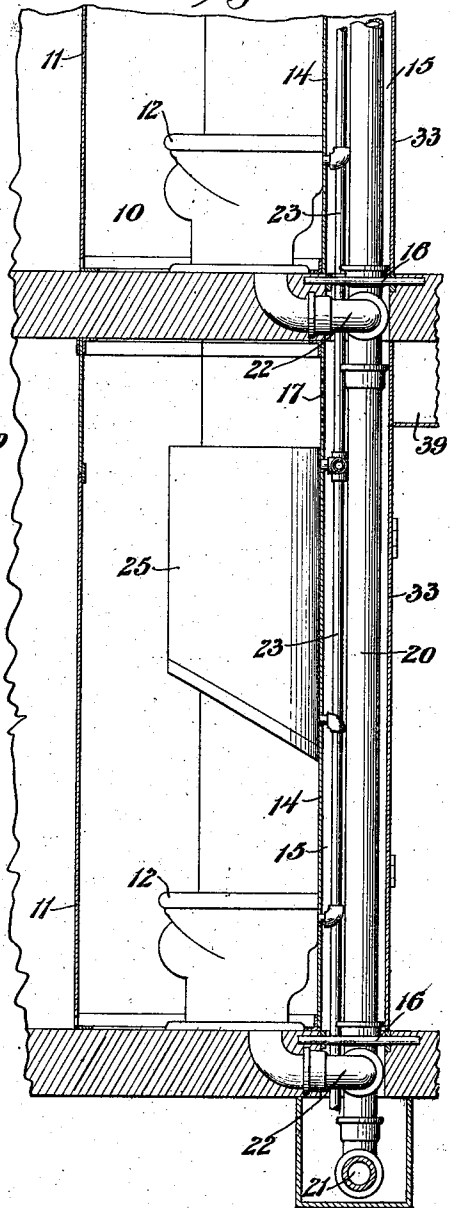
D. F. YOUNGBLOOD

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SANITARY VENTILATING AND PLUMBING SYSTEM

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5 Sheets-Sheet 2



Witnesses

Chas. L. McDonald
E. N. Lovell

By

Inventor
David F. Youngblood
E. J. Siggers

Attorney

Dec. 21, 1926.

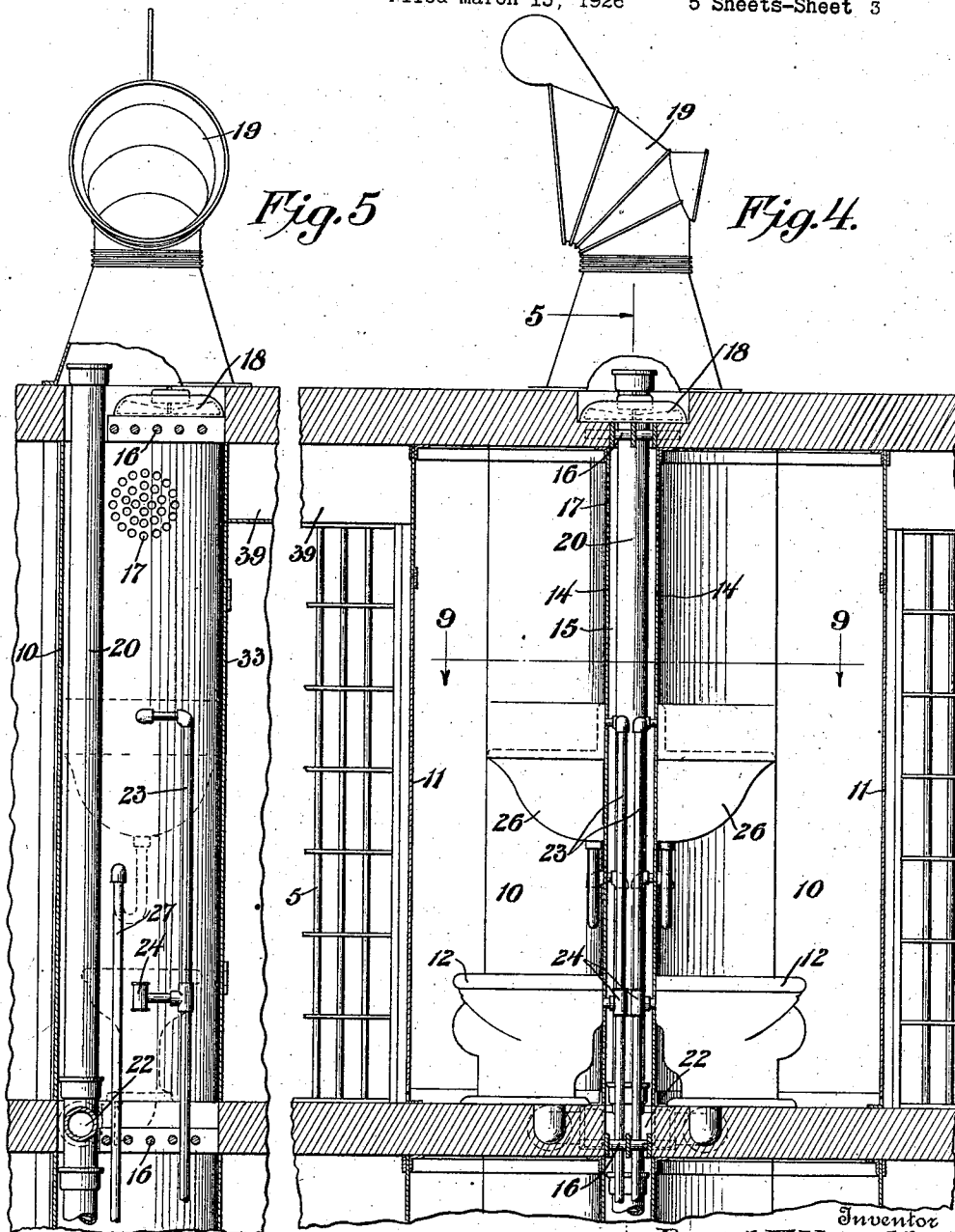
D. F. YOUNGBLOOD

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SANITARY VENTILATING AND PLUMBING SYSTEM

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5 Sheets-Sheet 3



Witnesses

Chas. L. McDonald.
E. N. Lovewell

34

Inventor
David F. Youngblood
E. G. Siggers

Attorney

Dec. 21, 1926.

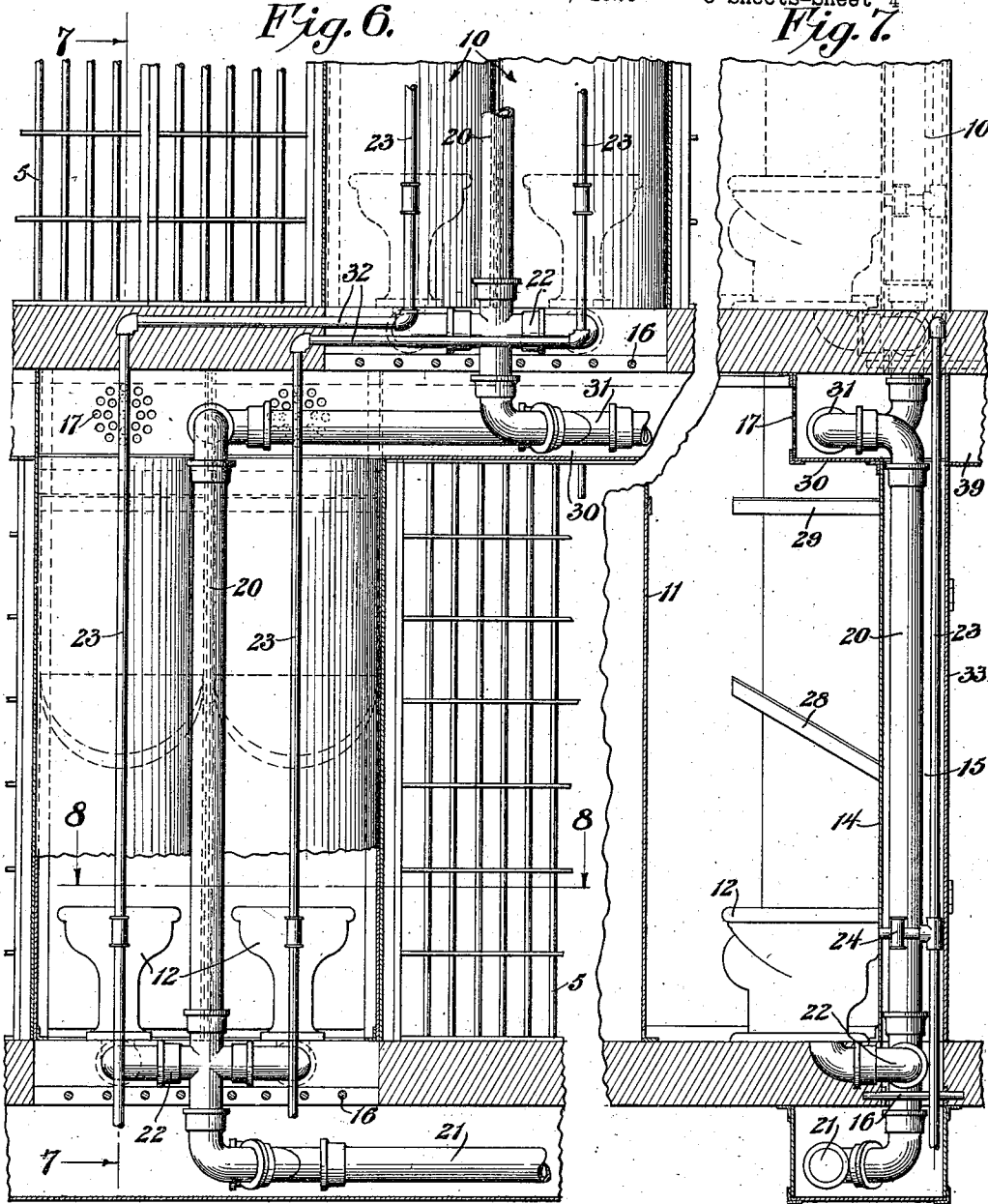
D. F. YOUNGBLOOD

1,611,261

SANITARY VENTILATING AND PLUMBING SYSTEM

Filed March 15, 1926

5 Sheets-Sheet 4



Witnesses

Chas. L. McDonald
E. N. Lovell

By

Inventor
David F. Youngblood
E. G. Siggers

Attorney

Dec. 21, 1926.

D. F. YOUNGBLOOD

1,611,261

SANITARY VENTILATING AND PLUMBING SYSTEM

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Fig. 8.

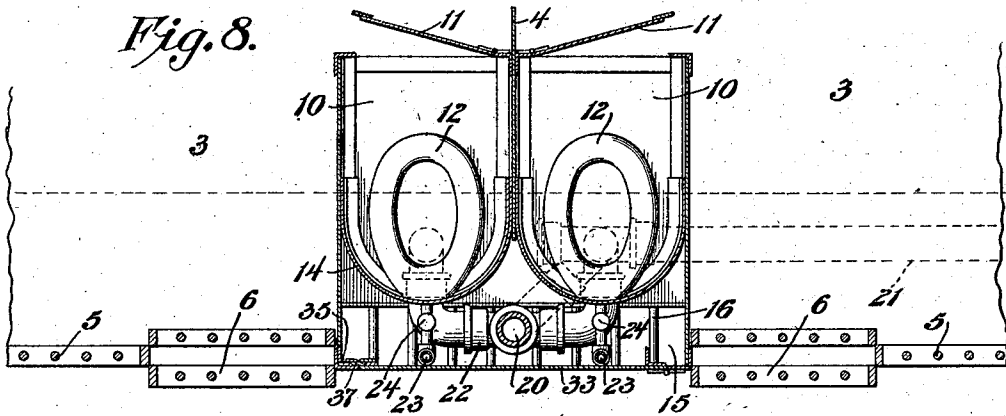


Fig. 9.

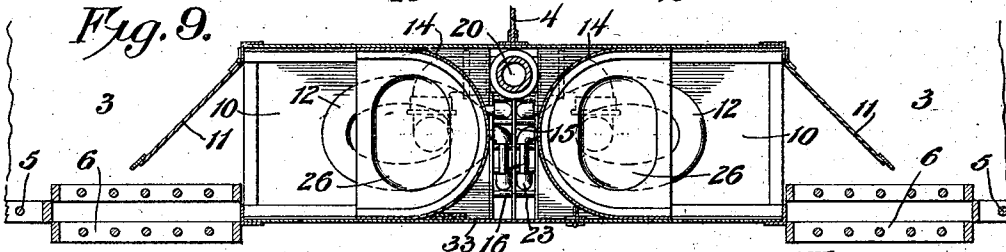


Fig. 10.

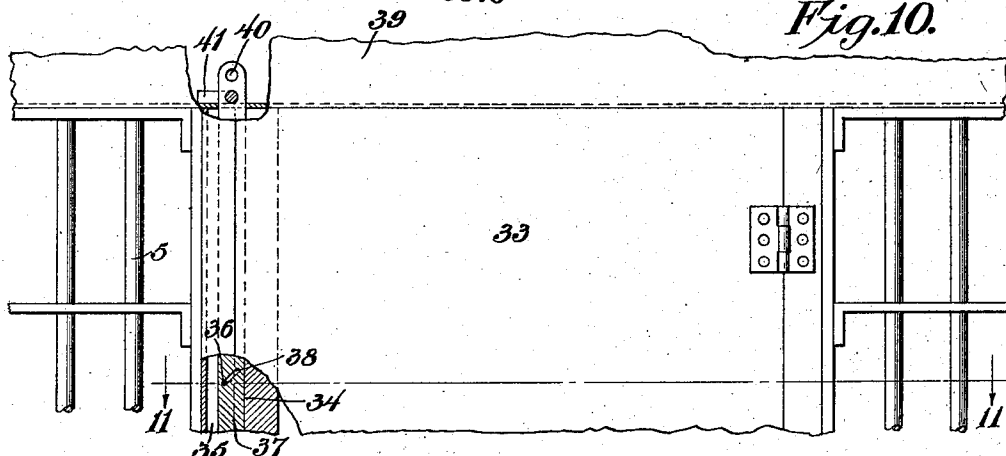
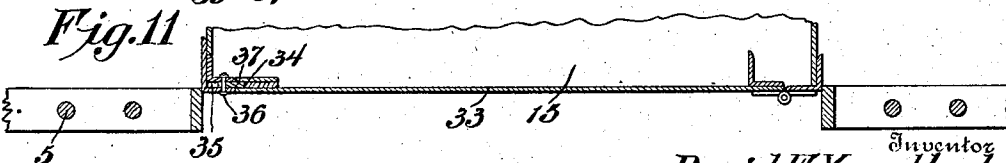


Fig. 11.



Witnesses

Chas. L. McDonald
E. N. Lovewell

334

David F. Youngblood
E. J. Siggers

UNITED STATES PATENT OFFICE.

DAVID FRANKLIN YOUNGBLOOD, OF SAN ANTONIO, TEXAS.

SANITARY VENTILATING AND PLUMBING SYSTEM.

Application filed March 15, 1926. Serial No. 94,871.

This invention relates to a sanitary ventilating and plumbing system, adapted particularly for use in jails, prisons and the like.

5 In the past it has been difficult to install plumbing fixtures in the cells and corridors of prisons having two or more floors without the soil pipes, water supply pipes, fittings, etc., being exposed to the prisoners, either in the cells or corridors. Having access to these fittings, they would tear them up and use them in making a break.

10 The principal object of the present invention is to provide maximum ventilation and sanitation for each cell, to arrange the system so as to make it more convenient for the jailers, and to improve the moral condition of the prisoners.

15 A further and specific object of the invention is to arrange the system so that the installation of the fittings will be facilitated, and they will be fully protected against damage by the prisoners, yet always easily accessible for the purpose of making repairs.

20 The manner of arranging the system in a standard prison so as to attain these objects will be more fully explained in connection with the accompanying drawings, which illustrate the same as adapted to various types of construction.

25 In the drawings:

Figure 1 is a plan view of a portion of a prison with my invention installed therein, the various walls being shown in section.

30 Figure 2 is a vertical section, somewhat enlarged, taken on the line 2—2 of Figure 1, but showing a slight modification in the plumbing.

35 Figure 3 is a vertical section taken on the line 3—3 of Figure 2.

40 Figure 4 is a vertical section through a portion of the upper floor and roof of a prison, showing a further modification in the arrangement of the plumbing.

45 Figure 5 is a vertical section taken on the line 5—5 of Figure 4.

Figure 6 is a vertical section similar to Figure 2, but showing a modified construction.

50 Figure 7 is a vertical section taken on the line 7—7 of Figure 6.

Figure 8 is a horizontal section taken on the line 8—8 of Figure 6.

Figure 9 is a horizontal section taken on the line 9—9 of Figure 4.

55 Figure 10 is a fragmentary view showing, in front elevation, a portion of a steel door forming a part of the system.

Figure 11 is a horizontal section taken on the line 11—11 of Figure 10.

60 The invention is shown in connection with a prison of standard construction, having a number of cell rooms 1, surrounded by a wall 2, and containing a row of cells 3, separated by partitions 4 usually formed from steel plates. The cells are enclosed by steel bars 5, and each cell is provided with a door 6 opening into a corridor 7. A bunk 8 is located at the back side of each cell, and in the construction shown in Figures 1, 2 and 3, each cell is provided with a wash basin 9, and a niche 10 closed by a door 11 and containing a toilet seat 12. The locking of the cell doors and the corridor door is usually controlled from a control box 13 at one end of the corridor by means of suitable mechanism, which, however, forms no part of the present invention.

Each niche 10 has a rear wall 14 of plate steel, behind which is a ventilating and utility shaft 15. Each of these shafts forms a continuous air passageway from the bottom to the top of the prison, and at each floor is traversed by a series of bars, 16, which are set in the concrete of the floor at the time the latter is constructed.

65 In the construction shown in Figures 2 to 5 inclusive, the cells on the several floors and the niches are arranged one directly above the other, so that the shafts 15 extend vertically to the roof. The rear wall 14 of each niche is provided near the ceiling with a series of perforations 17, permitting a free circulation of air from the cell and niche into the shaft 15. The latter is provided with a fan 18 at its upper end, and its outlet is covered by a hood 19.

70 The shafts 15 are used not only for ventilation, but also for containing the plumbing. This includes a vertical stack 20, leading to a horizontal main 21 which is connected to the sewer. Each of the toilets 12 discharges through a branch 22 into one of the stacks. Each of the shafts 15 also contains water supply pipes 23, and water for flushing the toilet is supplied through a flush-

ometer 24, as shown in Figures 1, 4, 5 and 8, or through a flush tank 25, as shown in Figures 2 and 3. Where the flushometer is used, the space above the toilet 12 may be used for a wash basin 26, as shown in Figures 4 and 5, or for shelves 28 and 29, as shown in Figures 6 and 7.

When, as illustrated in Figures 6 and 7, the cells are not arranged one directly above the other, the stacks 20 have a horizontal main 31 leading therefrom beneath each floor, and enclosed by the steel cover box 30, which also forms an air passageway connecting the shafts 15 on the respective floors. In this construction, the water supply pipes 23 also have horizontal portions 32.

Easy access may be had to the plumbing through steel hinged doors 33, which open from the corridor into the shafts 15, as shown in detail in Figures 10 and 11, one door 33 being provided in front of each cell. Each door 33 is constructed with a channel 34 in its outer edge, and the adjacent jamb is provided with a corresponding channel 35, which is traversed by a number of pins 36. A vertical sliding lock bar 37 is mounted on the pins 36, which pass through inclined slots 38 in the bar, so that when the bar is raised, as shown in Figures 10 and 11, it projects into the channel 34 and locks the door 33. When the bar is lowered, it moves back entirely within the channel 35 and releases the door. There is a steel cover box 39 above the doors 33, which extends from end to end of the row of cells. The upper end of the locking bar 37 extends into this box, and is provided with a plurality of holes 40 with which a latching device 41 cooperates to determine the position of the bar 37. Access to the box 39 may be controlled by suitable mechanism from the control box 13, but inasmuch as this mechanism forms no part of the present invention, a description thereof is believed to be unnecessary.

From the foregoing description, it will be seen that in a system constructed according to the invention, it is absolutely impossible for prisoners to get access to or destroy the plumbing system, and yet the latter is easily accessible to the warden for the purpose of making repairs. Adequate ventilation is provided for each cell, and will greatly improve the sanitary condition of the prisoner. A number of different ways of arranging the plumbing have been shown in order to illustrate the adaptation of the invention thereto. It will be understood, however, that any other desired arrangement may be used, which is in accordance with the plumbing regulations of the town or city in which the prison is built. The ventilating system, in combination with the means for enclosing and protecting the plumbing, may be easily modified to accord with any

building plans without any material departure from the salient features of the invention as expressed in the claims.

What is claimed is:

1. A prison structure comprising a plurality of floors, a row of cells on each floor, a ventilating shaft in the wall of each cell with a series of small openings from the cell to the shaft, plumbing fixtures concealed in the shafts and including a water supply pipe and a stack for each shaft, each of the intermediate floors having grated openings connecting the several shafts of that floor with those of the floor below, the shafts on the topmost floor each having a grated outlet to the roof, thereby forming a series of ventilating shafts extending continuously from the bottom floor to the roof, hinged steel doors outside the respective cells and forming the outer faces of the walls in which the ventilating shafts are located, a steel cover box above each row of doors, and means contained in said box and controlled by the prison officials for locking and unlocking said doors.

2. A prison structure, comprising a plurality of floors, a row of cells on each floor, plumbing fixtures including a water supply pipe and a stack concealed in the wall of each cell, a steel cover box running beneath the floor from end to end of each row of cells, a horizontal main drain pipe in each of said boxes and connected with all of the stacks in the row above the same, hinged steel doors outside the respective cells forming the outer face of the walls in which the plumbing fixtures are located, and means controlled by the prison officials for locking or unlocking said doors.

3. A prison structure comprising a plurality of floors, a row of cells on each floor, a ventilating shaft in the wall of each cell with a series of small openings from the cell to the shaft, plumbing fixtures concealed within the shaft and including a water supply pipe and a stack, a steel cover box running beneath the floor from end to end of each row of cells and connecting the shafts on the lower floor to those on the floor above, so as to form a continuous ventilating system from the first floor to the roof, bars embedded in the floors and extending across the respective shafts, a horizontal main drain pipe in each of said boxes and connected with all of the stacks in the row above the same, hinged steel doors outside the respective cells forming the outer faces of the walls in which the ventilating shafts are located, and means controlled by the prison officials for locking or unlocking said doors.

In testimony that I claim the foregoing as my own, I have hereto affixed my signature.

DAVID FRANKLIN YOUNGBLOOD.