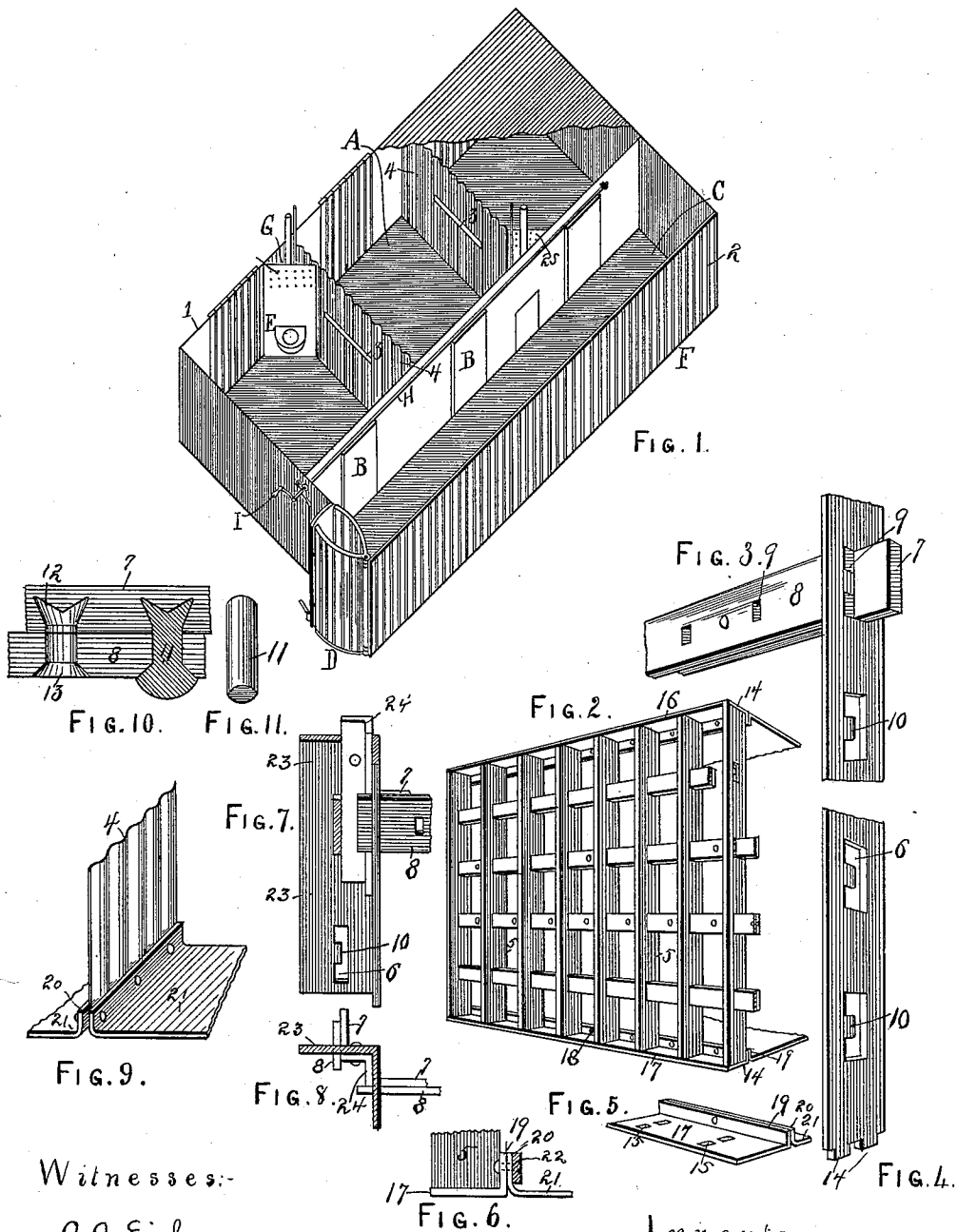


(No Model.)

P. HALE.
ART OF CONSTRUCTING JAILS.

No. 469,635.

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Witnesses:-

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ART OF CONSTRUCTING JAILS.

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To all whom it may concern:

Be it known that I, PERLEY HALE, of the city of Chicago, Cook county, and State of Illinois, have invented certain new and useful Improvements in the Art of Constructing Jails, of which the following is a full, clear, and exact description, reference being had to the accompanying drawings, forming a part hereof.

My invention relates to an improvement in the art of constructing jails; and it consists in the novel construction, combination, and arrangement of parts for a jail, hereinafter described and claimed.

In the drawings, Figure 1 is a perspective view of a jail embracing my improvement, the same exhibiting three cells with closet arrangement and a corridor connecting with the cells. Fig. 2 is a perspective view of the improved lattice-work used in carrying out the invention. Fig. 3 is a detail view in perspective showing a horizontal and a vertical bar with parts broken away. Fig. 4 is a detail view in perspective showing the tenons at the lower end of a vertical bar. Fig. 5 is a detail view in perspective showing a floor-plate made use of in carrying out the invention. Fig. 6 is a detail sectional elevation showing the lower end of a vertical bar and cross-section of the floor-plate and floor-sheet. Fig. 7 is a broken perspective view of a vertical corner bar, angle-iron key-bar, and a horizontal bar. Fig. 8 is a sectional plan view of the same, showing the ends of the inner horizontal bars abutting against the angle-iron key-bar. Fig. 9 is a detail view in perspective of a portion of a floor-plate and a floor-sheet and corrugated partition secured to the same. Fig. 10 is a detail horizontal section through an inner and outer horizontal bar, illustrating the manner of riveting them together. Fig. 11 is a detail view in perspective of a rivet before being set.

The cells A are constructed in a row with a corridor C in front of them, having each a door B, leading from the corridor, a closet E, and ventilating-chamber G, the latter being located in one corner of the cell, so as to take up as little room as possible.

D and H respectively represent an improved safety-gate and door-operating shaft,

the details of which form no part of my present invention and need not be further referred to herein, they forming the subject-matter of separate applications of even date hereof. I indicates the handle of said operating-shaft.

The rear walls 1 and the outer wall 2 of the cells and corridor, respectively, are preferably constructed of the improved lattice-work described later on. The partitions 4 are preferably made of corrugated-metal plates and are provided with metallic wall-strips 3, suitably riveted or otherwise secured in place for the purpose of fastening a hammock thereto. They extend transversely of the corrugations of the corrugated partition-plates. (See Fig. 1.)

5 indicates the vertical bars of the lattice-work, having therein at predeterminate distances apart -shaped mortises or apertures 6 for reception of the inner and outer horizontal bars 7 and 8, respectively, said inner bar 7 passing directly through the mortise 6, and the outer bar 8 also passing through said mortise, but being provided with transverse mortises 9 at predeterminate distances apart, which are engaged by the projecting lugs 10 of the vertical bars. (See Fig. 3.)

In the further description of my invention I will describe but one part where there are a plurality of such parts having the same form and construction.

I may term the outer horizontal bar 8 a "locking-bar," because in erecting the lattice-work the outer bar 8 is first introduced into the mortise 6 and afterward the inner bar is placed in position and suitable rivets, as 11, are used to secure the two securely together, thereby "locking" both firmly in place and preventing either from being moved laterally. In securing these bars I prefer to use the rivets shown in Figs. 10 and 11, which may be described as follows: 12 indicates a dovetail socket drilled into but not through the bar 7, and 13 is a countersunk aperture drilled entirely through the bar 8, which registers with said socket in bar 7. After the socket 12 and aperture 13 are brought into such position as to register then the rivet 11 is inserted into both while hot. The rivet is then set so as to present about the appearance indicated at the

right hand of Fig. 10. This construction provides an imperforate surface on the inner side of bars 7 within the cells, preventing tampering with rivets by the prisoner, which might otherwise occur were the rivets set so as to project upon the inner side of said bars 7.

The vertical bars 5 are formed with tenons 14 on their upper and lower terminals, which engage mortises 15 in the top plate 16 and floor-plate 17, respectively, and said top and floor plates are secured to the floor and ceiling of the cell by means of rivets 18, passed through holes in flanges turned on the parts. The floor-plates 17 I prefer to provide with an upturned flange 19 on their outer edges, to which is riveted the upturned flange 20 on the floor-sheet 21.

In Fig. 9 I have shown two floor-sheets with flanges 20 and a corrugated cell-partition plate 4, riveted between said flanges, which construction illustrates the manner of securing the cell-partitions in position, both at top and bottom. At top said partitions are likewise riveted between two ceiling-sheets.

As before intimated, the lattice-work of which the rear walls 1 and the outer corridor-wall 2 are constructed is secured to the cell and corridor floor-sheets, as shown in Fig. 6, wherein the floor-plate 17 is shown riveted to the floor-sheet 21, with a stiffening-bar 22 riveted in place upon the inner side of the flange on the floor-sheet by means of what I term "blind" rivets, as shown by dotted lines in said figure. At the corners, or where the lattice-work is constructed in the form of two lattice-walls meeting at a right angle, the construction is such as that indicated in Figs. 7 and 8, wherein 23 indicates a vertical corner bar made of angle iron or steel having a cross-section that is L-shaped, the two wings of which are provided with mortises 6 and lugs 10 identical to those of the vertical bars 5, and the horizontal bars 7 and 8 are applied to them in the same manner as to the vertical bars, except that the end of the inner bars 7 simply pass through the wings of the corner bar 23 and abut against the wings of an angle-iron key-bar 24, which latter is interposed and riveted in place closely in the inner angle of said corner bar, while the ends of the outer bars 8 pass through said wings of said corner bar and project a little distance and engage the edges of said angle-iron key-bar 24, making a very strong and secure construction of the corners of a lattice-work grating.

A considerable advantage arises from the use of other constructions specified. For instance, there is a great advantage in constructing the floor-sheets with upturned-edge flanges, as shown in Figs. 2, 5, 6, and 9, inasmuch as by the older method, in which plain unflanged floor-sheets were riveted to the angle-bars around the corners of the cell, the

water used to scrub the floors would penetrate the joints and corrode the metal in a short time, thereby rendering repairs necessary, which, if frequent, would amount to considerable loss. This defect is wholly remedied by the use of my improved construction of floor-sheets with upturned flanges riveted to the vertical portions of the cell-walls, as before described.

What I claim is—

1. The art of constructing jails, which consists in constructing vertical bars 5 with a series of -shaped mortises and terminal tenons 14, constructing a series of horizontal bars with mortises 9, locating said horizontal bars in the mortises of said vertical bars, so that the mortises 9 in the horizontal bars will be engaged by projecting lugs on said vertical bars, and finally inserting additional horizontal bars in the mortises of the vertical bars, substantially as set forth.

2. As an improvement in the art of constructing jails, the combination of the L-shaped corner bar having mortises 6 and projecting lugs 10, the horizontal bars 8, having mortises 9, the bars 7, and means for locking said bars 7 and 8 together, substantially as set forth.

3. As an improvement in the art of constructing jails, the combination of an L-shaped corner bar 23, having mortises 6, horizontal bars 7 and 8, and an angle-iron key-bar 24, placed in the inner angle of said corner bar, substantially as set forth.

4. As an improvement in the art of constructing jails, the combination of the vertical bars 5, having tenons 14 upon their lower ends, and the floor-plate 17, having mortises 15, which are engaged by the tenons on said vertical bars, said floor-plate also having an upturned flange 19 for engaging the edges of the vertical bars, substantially as set forth.

5. As an improvement in the art of constructing jails, the combination of the jail-floor plates 17, having flanges 19, the floor-sheet 21, having flange 20, the stiffening-bar 22, having dovetailed sockets drilled in one side thereof, and the rivets passing through the flanges 19 and 20 and entering the sockets in said stiffening-bar, substantially as set forth.

6. As an improvement in the art of constructing jails, constructing the floor-sheets 21 with upturned flanges 20, perforating said flanges, and riveting them to a vertical portion of the cell, substantially as set forth.

In testimony whereof I affix my signature in presence of two witnesses.

PERLEY HALE.

Witnesses:

BENJ. J. KLENE,
ED. E. LONGAN.