H. E. WHITE.

BUILDING CONSTRUCTION.

APPLICATION FILED SEPT. 23, 1909.

1,100,804. Patented June 23, 1914.

3 SHEETS—SHEET 1.

Fig. 1.

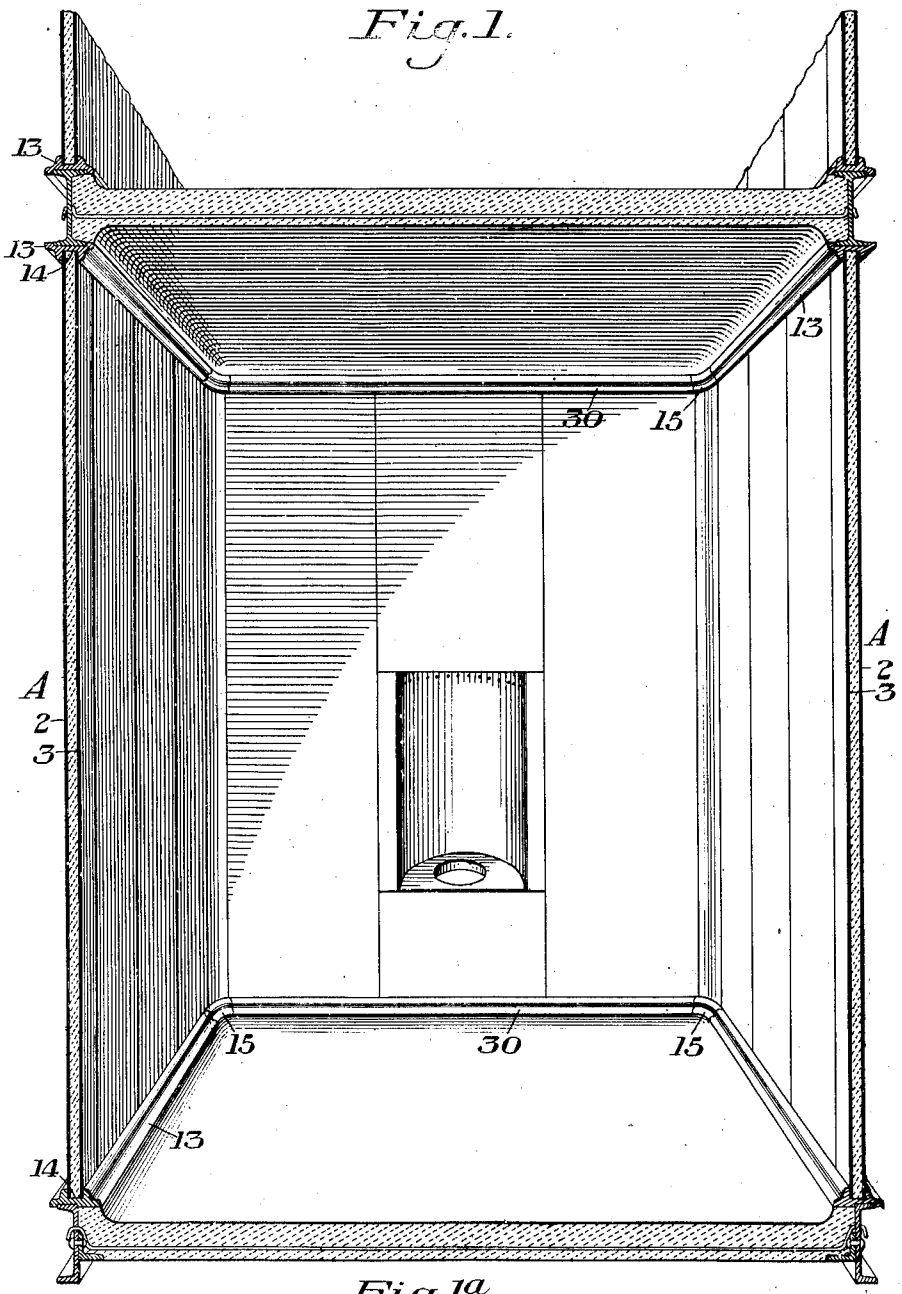
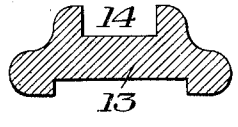


Fig. 1a.



WITNESSES

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3 SHEETS—SHEET 2.

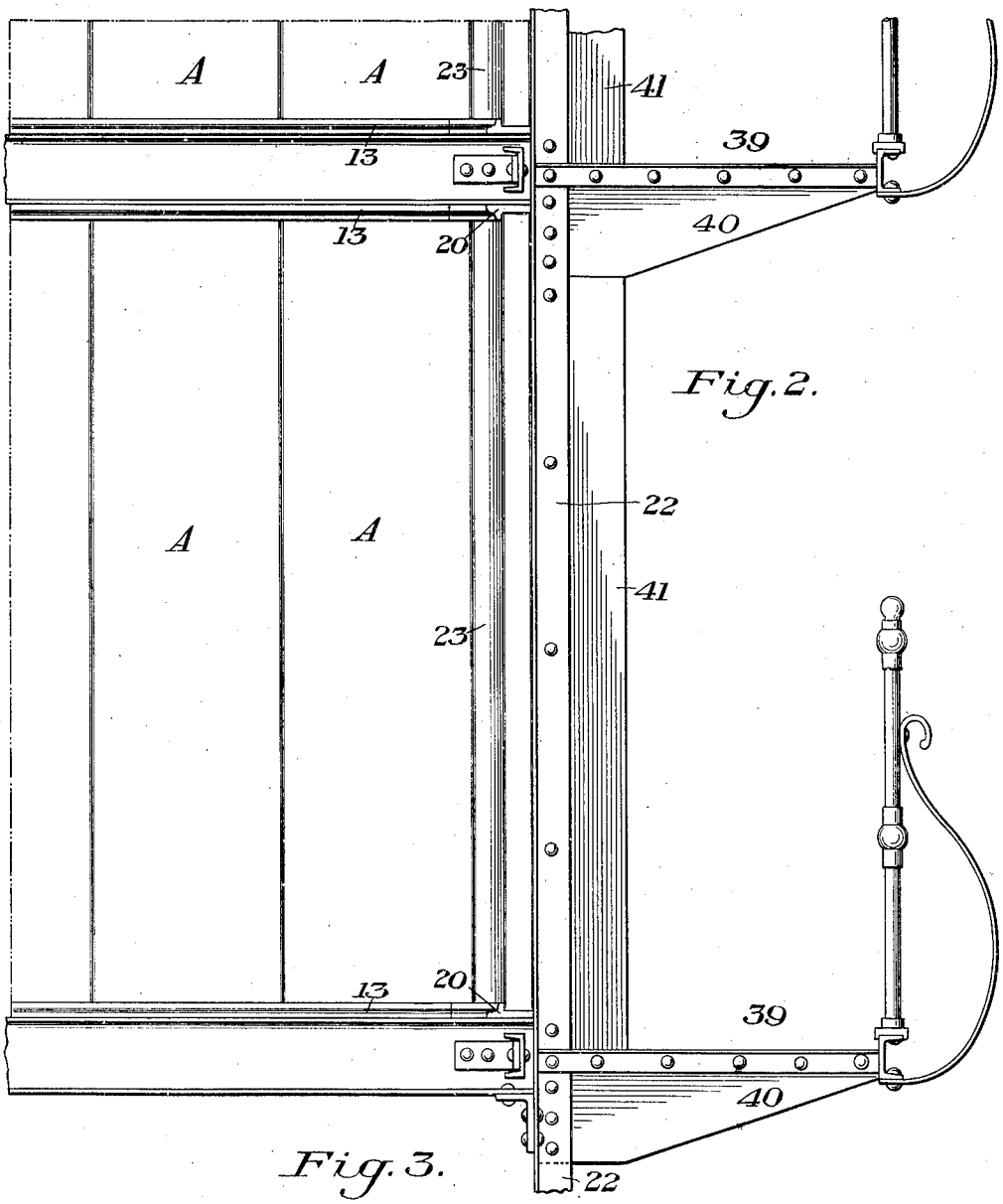
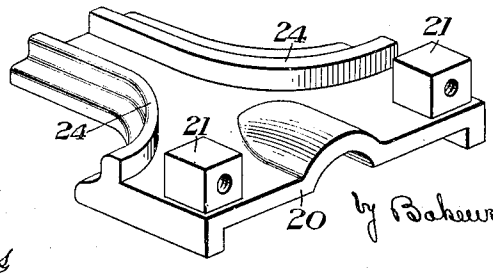


Fig. 2.

Fig. 3.



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3 SHEETS—SHEET 3.

Fig. 4.

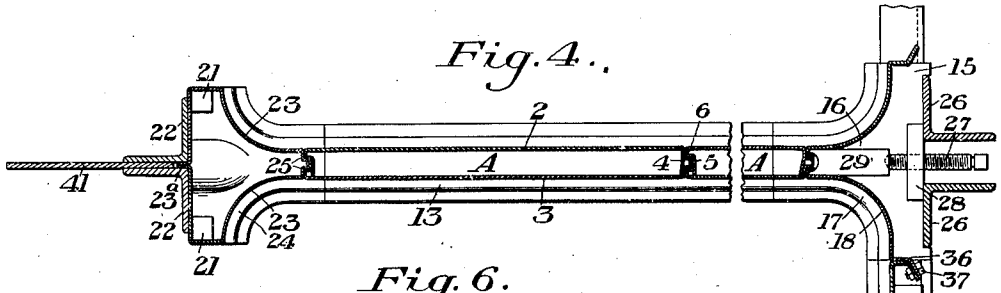


Fig. 6.

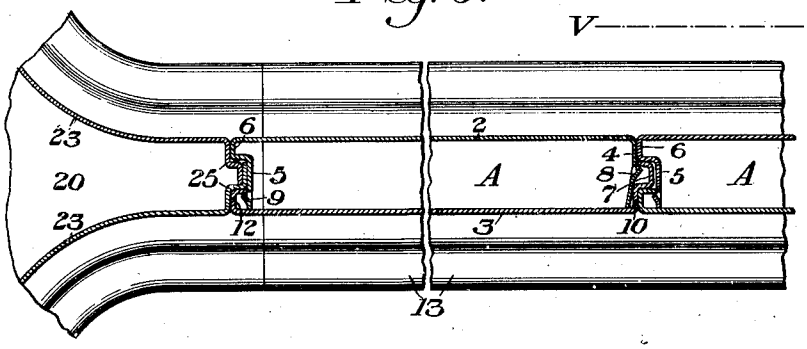


Fig. 7.

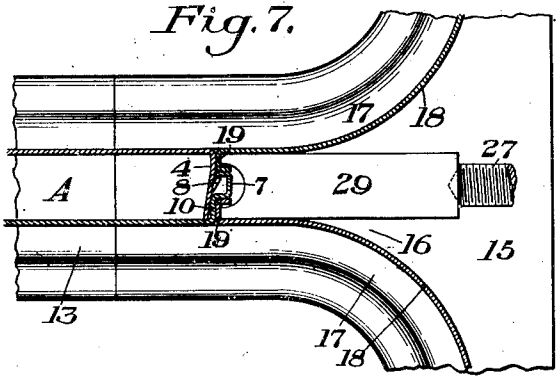


Fig. 5.

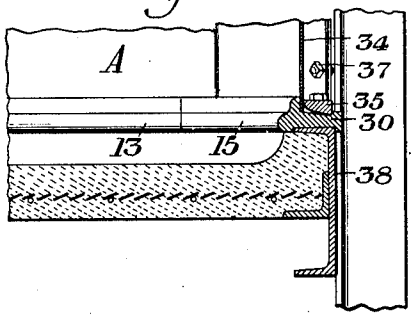


Fig. 8.

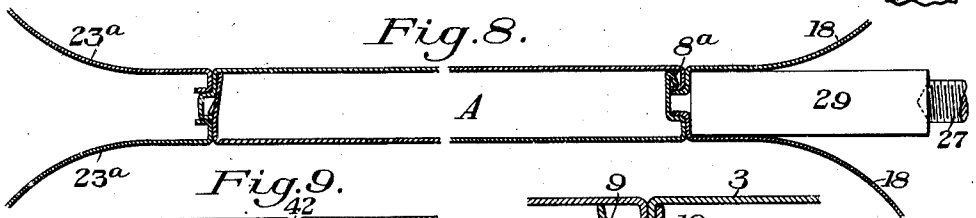


Fig. 9.

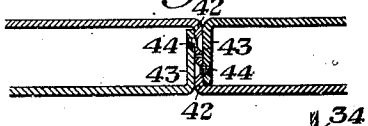


Fig. 10.

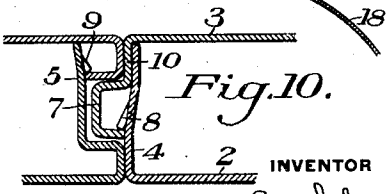
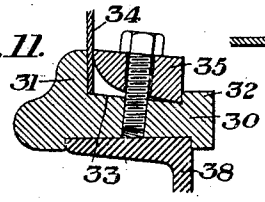


Fig. 11.



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UNITED STATES PATENT OFFICE.

HERBERT E. WHITE, OF YOUNGSTOWN, OHIO, ASSIGNOR TO THE GENERAL FIRE-PROOFING COMPANY, OF YOUNGSTOWN, OHIO, A CORPORATION OF OHIO.

BUILDING CONSTRUCTION.

1,100,804. Specification of Letters Patent. Patented June 23, 1914.

Application filed September 23, 1909. Serial No. 519,136.

To all whom it may concern:

Be it known that I, HERBERT E. WHITE, of Youngstown, Mahoning county, State of Ohio, have invented a new and Improved Building Construction, of which the following is a full, clear, and exact description, reference being had to the accompanying drawings, forming part of this specification, in which—

Figure 1 is a sectional perspective view of a jail cell constructed in accordance with my invention; Fig. 1ª is a sectional detail view of the grooved rail; Fig. 2 is a partial side elevation of the same; Fig. 3 is a detail view in perspective of one of the front corner castings; Fig. 4 is a sectional plan view partly broken away; Fig. 5 is a sectional detail view, on the line V—V of Fig. 4; Figs. 6 and 7 are sectional detail views showing more clearly the interlocking panel members; Figs. 8, 9 and 10 are similar views, but showing modifications; and Fig. 11 is a sectional detail view through the rear bottom casting and clamping member.

My invention relates to steel building constructions, and is particularly designed for jail cells.

The object of the invention is to provide an improved partition structure and also adjunct structures, which will be cleanly, easily removed and renewed in case of injury, and at the same time will present no bolts, rivets or fastenings on the cell or room wall.

The invention is particularly designed for building jail cells having enameled metal walls, although within the scope of some of my claims the steel may be enameled or not. I prefer the enameled construction, because it is aseptic, easily cleaned and does away with the cost and trouble of frequent painting. The enamel is also a further advantage in immediately showing any attempt to cut through or attack the walls of the cell.

In carrying out my invention, I preferably form the cell wall of hollow metal panels, preferably formed of metal sheets with suitable interlocking connections between them the space between these sheets being preferably filled with concrete, slag or some filling material which acts as a deadener. The panels are preferably of the full height of the cell and are provided with vertically extending joints between the successive panels, which interlock and are provided with an offset or jog therein to prevent the inmate from passing paper, a knife or any thin material through the joint. The wall panels are preferably held at top and bottom within channels or grooves of the cell framework and are clamped in place preferably by pressure applied at one end of the cell, preferably the rear end, the pressure device being such as to allow removal and sliding out of the sections for replacing, if desired. The corner framework of the cell is so arranged as to allow sufficient space for sliding these sections or panels successively longitudinally of the cell, to allow this removal and replacing.

In the drawings, in which I show a preferred form of my invention, the side walls of the cell are formed by the hollow panels A, A, each of which is shown as formed of two pressed-up steel sheets 2 and 3. Each sheet 2 is provided with side flanges 4 and 5, of which the flange 5 is bent inwardly, as shown at 6, to allow entrance of and interfitting with a projection or rib 7, on the next panel. The flange 4 is preferably inclined inwardly slightly and is provided with cut and bent out ears or lugs 8, which are intermediate of the flange width. The flange 5 is provided with similar ears or lugs 9 at its edge portion. In place of providing these struck-up ears 8 and 9, these lugs or ears may be formed by bending back the flange, which in this case would originally be of greater width. The sheet 3 is provided at one side with the flange 10, the outer portion of which is bent into an outwardly projecting rib 7. The other side edge of the sheet 3 is provided with an inwardly bent hook portion 12.

The panel is formed by simply pushing the flanges 4 and 5 of the sheet 2 within the hook flanges of the sheet 3. The ears then spring outwardly into the hooked-shaped pockets and hold the sheets in place to form a panel. At the same time, when the successive panels are assembled edge to edge, tongue and groove joints are formed between the edges by reason of the rib 7, projecting into the panel space between the hook portion 6 and the hook flange 12. This gives an offset in the joint to prevent any thin material being forced through it. This interlocking connection between the panels also serves to aline them with each other, and this is advantageous, since the sheets are

liable to warp during enameling. In preparing the sheets, they are preferably cut the proper size, then pressed or bent to the desired shapes, and thereafter their exposed faces are enameled by any of the methods of enameling well known in the art. The grooves for receiving these panels are formed in the top and bottom rails 13, which may be cast or otherwise formed, and which contain the channels 14 of proper width to receive the panels. These channel rails extend along the top and bottom sides of the cell, and their channels at the ends are alined with the corresponding channel opening in rear corner castings 15. This corner casting 15 has the channel 16 formed by cast curved wings 17, the channel opening on to the flat base of the casting. The inner faces of the curved wings 17 fit the correspondingly curved rear steel corner sheets 18, which sheets are provided with hooked flanges 19, where they abut against the side panels, the rib 7 fitting between them and making the offset joint.

Corner front castings 20 are provided, which are generally similar to the rear corner castings except that they are preferably provided with upwardly projecting lugs 21, to which may be secured the curved corner sheets or plates 23. The curved front corner sheets 23 extend along the curved wings 24 of the casting and thence around the casting and preferably flush therewith, and are preferably provided with forwardly projecting flanges 23^a, which fit neatly within the narrow space between the webs of flange shapes 22. These sheets need not extend for this entire contour, but I prefer it in order to prevent their warping. The rear edges of the sheets are provided with offset flanges 25, which, in the main form shown, enter the channel of the front side panels and give the interlocking joint.

The webs of the rear corner structural shapes 26 are preferably spaced apart a sufficient distance to allow the side panels to slide rearwardly between them in case of removal, for replacement or repair, or if two cells are to be thrown into one. This also provides a convenient opening for the clamping means to secure the panels in place. In the form shown, this clamping means consists of a series of set screws 27 which extend through loose blocks or nuts 28 and engage the push blocks 29, whose front edges are centrally recessed to allow the entrance of the interlocking joint. This block may, however, be arranged to act upon the edges of the hooked flanges 19, instead of being recessed, as shown. In clamping the parts, the blocks or nuts 28 are turned edgewise, slipped through between the structural shapes and then turned crosswise to engage the shapes. The screws are then turned up to exert a pressure on the block 29, and thereby force the panels into close interlocking contact and prevent their being moved. The blocks 29 may be spaced apart any desirable distance through the height of the cell.

A rear bottom casting or castings 30 extends along the floor level or a little above the floor level, to the rear corner casting and is provided with an upwardly projecting wall 31, and the rear lip 32, forming a recess, the bottom 33 of which is inclined downwardly and rearwardly, the arrangement preferably being such that the front edge of the grooved bottom is at or above the level of the top of the lip 32. The rear single sheets 34 of the cell wall are fitted against the portion 31 of the casting and are secured by adjustable rocking locking blocks or bars 35, screwed down into the recess. These rear sheets may be secured together by providing outwardly projecting flanges 36, which are preferably bent intermediate their width so that the securing bolt 37 can not be reached by inserting a knife or saw between these flanges.

These jail cells are usually built in two rows arranged back to back with a utility corridor between their rear ends. This corridor forms the space to receive the panels for insertion and removal and for plumbing, electric wiring, etc. The structural work of the cells, whether in several superimposed tiers or not may be varied, as desired. I have shown horizontally extending rolled shapes 38 on which the rear castings 30 are fitted and secured. To make this joint stronger, I preferably recess the bottom of the casting 30 so that the flange of the shape fits into it. The same is the case with the side rails. The usual grated front may be applied to the cell, this being of any desirable form and arrangement.

I preferably provide forwardly projecting balconies 39, which may be supported on brackets 40 at or near the floor of the several tiers. Between these balconies I preferably provide vertically extending shields 41, which project forwardly from the front wall of the cell at the partitions, these serving to prevent the inmates from observing the guard who walks along the balcony, until he has reached the cell.

The floors and ceilings are preferably of concrete, with rounded corners curving to the guiding rails for the panels. The cell thus presents, on its interior, a complete side and rear wall surface of smooth aseptic enameled steel without any projection of bolts or any rivet heads or fastening means, while the entire cell may be washed out with a hose. As above stated, the panels may be easily removed in case of injury or defect in the enamel. These defects in enamel sometimes appear only after some period of time, due apparently to some

chemical action between the base metal and the enamel. The cells may be easily divided or thrown into one. The securing or clamping means are wholly external and the construction is strong, inaccessible and presents a smooth wall. When the panels are filled with suitable material, the objectionable noise of striking the metal with a hard object is largely confined within the cell, the material also acting to some extent as a non-heat conductor. This filling material will preferably be placed in the panel just before it is slid into place. The interlocking of the panel sheets enables them to be assembled even if slightly warped, and when forced home they will be brought into alinement within the guiding channels. The cam-shaped locking blocks 35 for the rear piece allow for variations in thickness of these sheets while securely holding them.

Many variations may be made in the form and arrangement of the cell structure without departing from my invention. For example, the ribs of the panels may project toward the front of the cell instead of toward the rear, as shown, in which case, the front corner sheets 23^a would have their flanges arranged as shown in Fig. 8. The interlocking tongues or ears may be bent back from the flange body, as shown at 8^a in Fig. 8. The sheets may be pressed in the shape form shown in Fig. 9. In this form, each sheet is similar to its mate and each has a short flange 42 along one edge and a longer flange 43 along the other edge, both flanges being right angled and being secured together by screws 44. This form also gives the offset joint, but I do not consider it as good as the main form of joint above shown.

I claim:

1. A building construction having a plurality of separate inclosures, comprising a metal frame work formed of structural shapes, grooved rails connected to the tops of some of the shapes and to the bottoms of other shapes, sliding panels in the grooves in the rails, corner members having diverging arms, the edges of the corner members engaging the end panels, and clamping means between the diverging arm to retain the corner members and the panels in position; substantially as described.

2. A building construction having a plurality of separate inclosures, a metal frame work having horizontally disposed structural shapes, longitudinally and transversely extending grooved rail members mounted on the top of the horizontal shapes in one plane, longitudinally and transversely extending grooved rail members engaging the bottoms of the horizontal shapes in a higher plane, corner castings engaging the edges of the longitudinally and transversely extending rail members, the corner castings having diverging flanges, the space between the flanges forming continuations of the grooves in the rail members, panels within the grooves of the two rail members in different planes, end members having diverging arms engaging the end panels and the flanges on the corner castings, and clamping means between the diverging arms of the end members for retaining the panels and the end members in position; substantially as described.

3. A building construction having a plurality of separate inclosures, comprising a metal frame work formed of structural shapes, grooved rails connected to the tops of some of the shapes and to the bottoms of other shapes, sliding panels in the grooves in the rails, corner members having diverging arms, the edges of the corner members engaging the end panels, and a clamp engaging the corner members between the diverging arms and also engaging the frame work for retaining the panels and corner members in position; substantially as described.

4. In a building structure, a metal frame work, grooved rails connected to the frame work, sliding panels within the grooves of the rails having a tongue and grooved engagement with each other, a plurality of sheet metal corner members engaging the end panel and diverging in opposite directions, and a clamping member engaging both of said corner members and the frame work; substantially as described.

5. In building construction, a partition wall, comprising members having receiving channels, a plurality of panels having a sliding engagement with said channels, a hollow end panel, and clamping means for the sliding panels extending within the hollow end panel, substantially as described.

6. In building construction, a partition wall, comprising members having receiving channels, a plurality of panels having a sliding engagement with said channels, a hollow corner member, having two diverging wings forming corners for adjacent inclosures, and clamping means for the sliding panels extending within the hollow corner member, substantially as described.

In testimony whereof, I have hereunto set my hand.

HERBERT E. WHITE.

Witnesses:
GEO. H. PARMELEE,
H. M. CORWIN.