

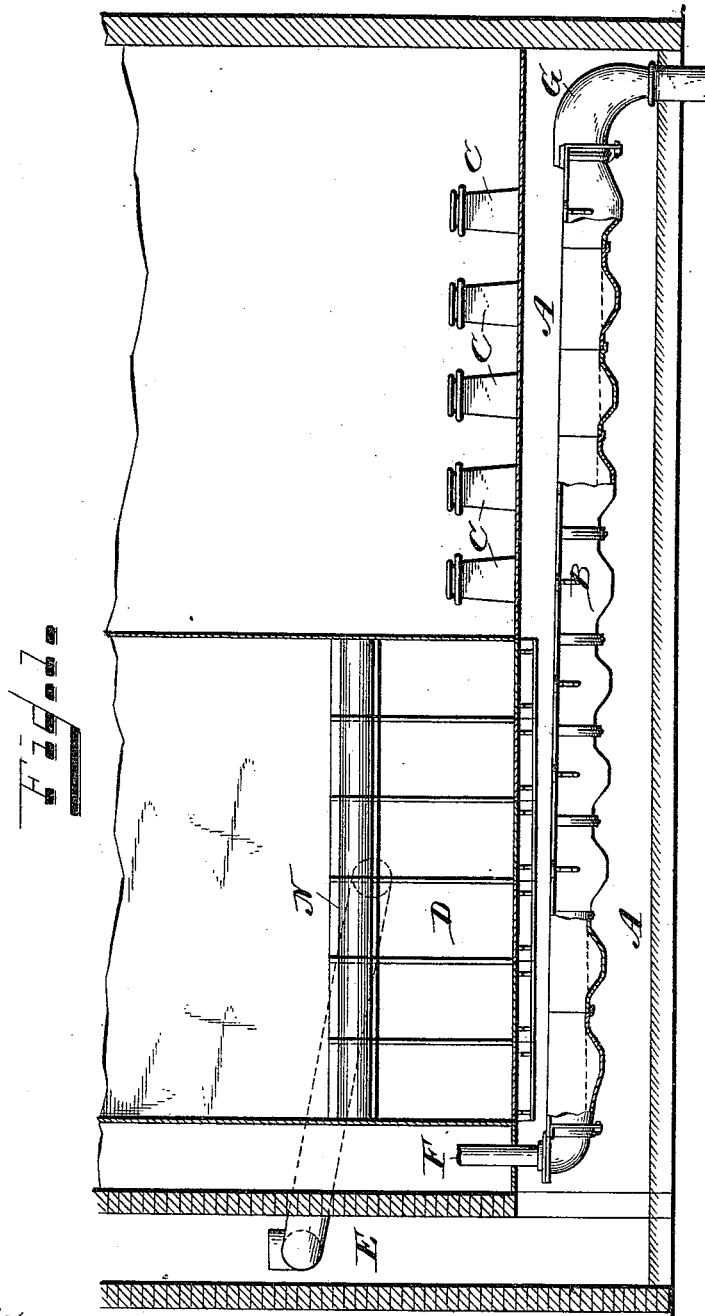
(No Model.)

3 Sheets—Sheet 1.

W. W. ENSIGN.
WATER CLOSET AND URINAL.

No. 525,809.

Patented Sept. 11, 1894.



Witnesses.
Thomas Cross
Bernard H. Haufeld

Inventor.
William W. Ensign
by *Chas. M. Beck*
his Attorney.

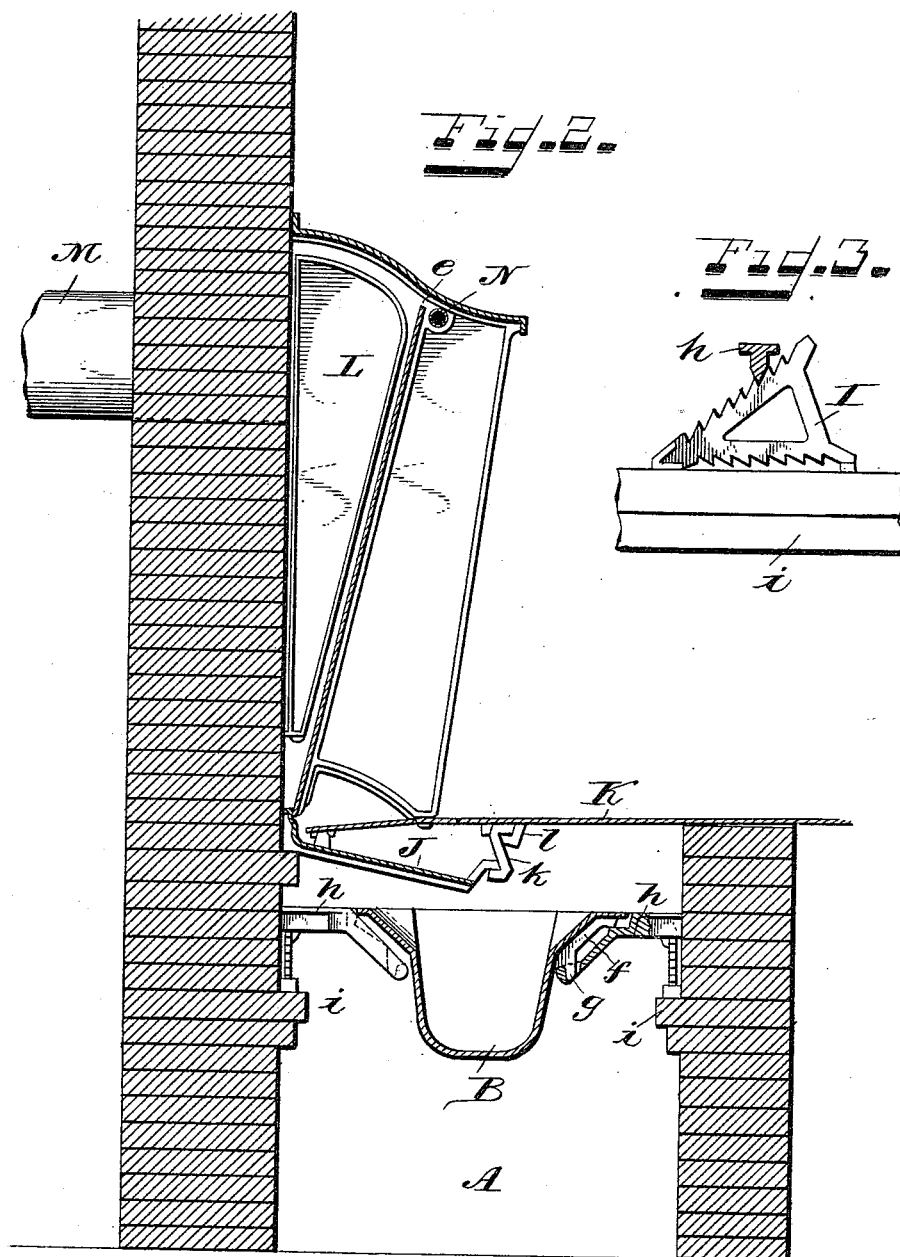
(No Model.)

3 Sheets—Sheet 2.

W. W. ENSIGN.
WATER CLOSET AND URINAL.

No. 525,809.

Patented Sept. 11, 1894.



Witnesses.
J. Thomson Cross
Bernard J. Hausfeld

Inventor:
William W. Ensign
by *Chas. M. Peck*
his Attorney.

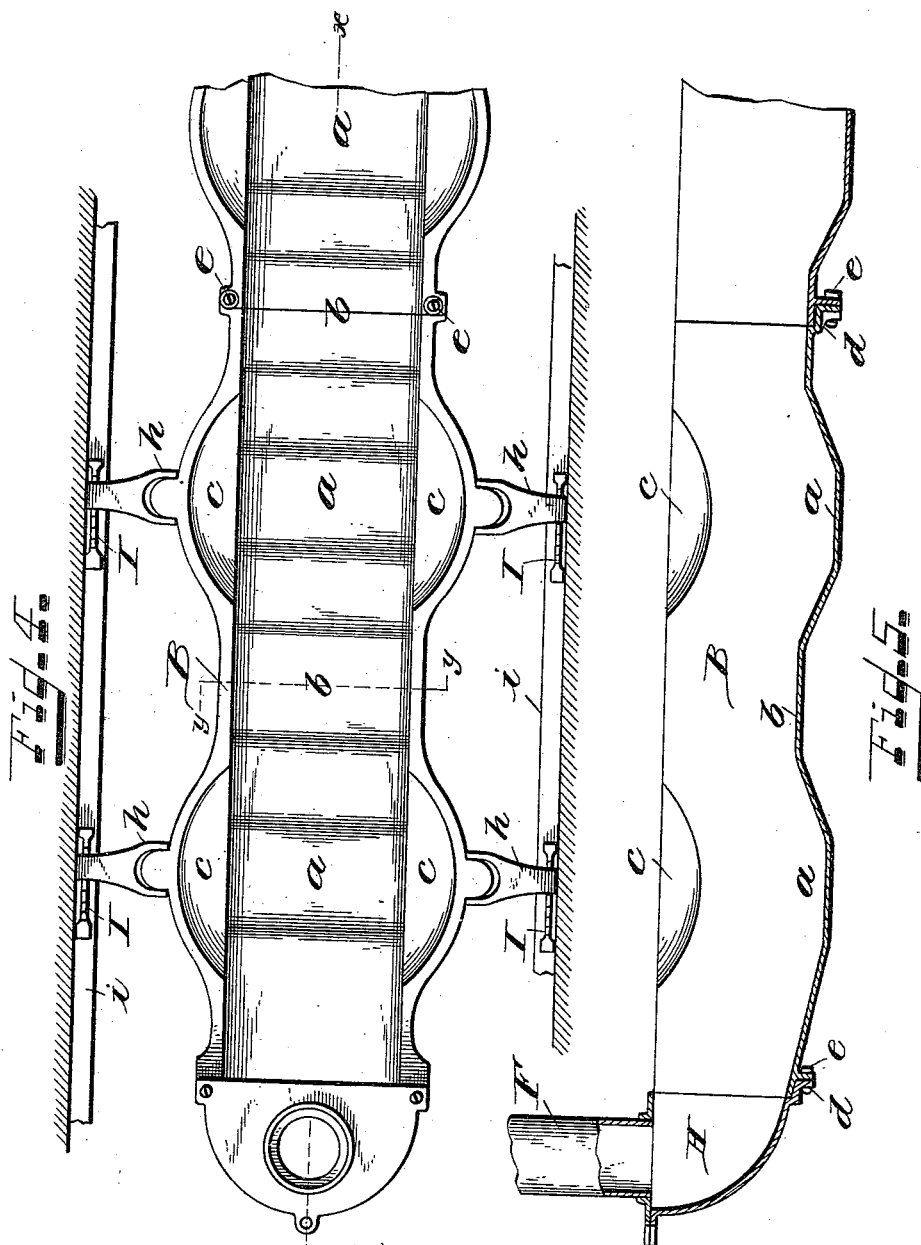
(No Model.)

3 Sheets—Sheet 3.

W. W. ENSIGN.
WATER CLOSET AND URINAL.

No. 525,809.

Patented Sept. 11, 1894.



UNITED STATES PATENT OFFICE.

WILLIAM W. ENSIGN, OF CINCINNATI, OHIO, ASSIGNOR TO THE PECK-WILLIAMSON HEATING AND VENTILATING COMPANY, OF SAME PLACE.

WATER-CLOSET AND URINAL.

SPECIFICATION forming part of Letters Patent No. 525,809, dated September 11, 1894.

Application filed March 12, 1894. Serial No. 503,296. (No model.)

To all whom it may concern:

Be it known that I, WILLIAM W. ENSIGN, a citizen of the United States, residing at Cincinnati, in the county of Hamilton and State of Ohio, have invented certain new and useful Improvements in Water-Closets and Urinals, of which the following is a full, clear, and exact description, reference being had to the accompanying drawings, forming part of this specification.

My invention relates to that system of closets and urinals used in public buildings and schools, and it has for its object the improved construction of the parts whereby perfect flushing of the trough and ventilation of the closet room are obtained.

It also has for its object the improved manner of constructing and supporting the trough.

The novelty of my invention will be hereinafter set forth and specifically pointed out in the claims.

In the accompanying drawings:—Figure 1, Sheet 1, is a front elevation, partly in section, of a closet room provided with my improvements. Fig. 2, Sheet 2, is an enlarged transverse section at the urinal. Fig. 3, Sheet 2, is an enlarged elevation of one of the serrated wedge supports for the trough. Fig. 4, Sheet 3, is an enlarged plan view of one end of the trough. Fig. 5, Sheet 3, is a sectional elevation on the dotted line $x-x$ of Fig. 4. Fig. 6, Sheet 3, is a transverse view on the dotted line $y-y$ of Fig. 4.

The same letters of reference are used to indicate identical parts in all the figures.

The general arrangement will be best understood by reference to Fig. 1, where A is the closet vault, containing the slanting trough B for the reception and discharge of the fecal deposits. The vault is covered by a floor on which are arranged the closet hoppers C and urinal D. One end of the vault communicates with the base of a vent stack E which extends up through the roof of the building and which is provided with a heater, not shown, at its base for creating an updraft in the stack.

F is the flushing pipe entering the trough at its highest end and G is the discharge pipe connected by suitable traps with the sewer. The water for flushing the trough is admitted periodically by automatic flushing means, not

shown, but which may be of the usual or any suitable construction. The trough itself is of cast iron in sections of one or two basins, so that it can be put together in any lengths desired to suit the length of the closet vault. In Figs. 4, 5 and 6, the construction is clearly indicated and the sections contain two basins a with substantially flat bottoms and a gradually tapering or inclined dam or weir b between them of such height that there will always remain about two and a half inches of water in the basins after flushing. The sides of the trough are almost perpendicular except just over the basins where they are flared out as at c to form circular mouths or openings for the basins. The ends of the sections are provided with overlapping flanges d between which any suitable packing can be placed to form water tight joints and are then secured by bolts e passed through the flanges. At the higher end of the trough is secured a receiving and deflecting hood H into which the flush pipe F enters.

To support the trough in proper position in the vault, ribs f are formed on the outer side of the flaring parts c with pendent lugs g to be engaged by hollow metal hangers h with perforations into which the lugs g fit, see Fig. 2, and whose upper ends, flush with the top of the trough extend out horizontally and have their under sides V-shaped as seen in Fig. 3, to engage any one of a series of serrations in metal wedges I placed under them and supported on straight corbels i in the vault. In this simple manner the trough is supported without any special fittings and can be readily adjusted by means of the wedges I which are reversible and given any degree of inclination desired. The wedges I have flanged supporting feet on both sides and the hangers extend flush to the inner walls of the vault so that there is no chance of the wedges tipping or becoming displaced.

The interior of the trough as seen in Figs. 1 and 5 is perfectly smooth so that it affords no means of lodgment of fecal matter.

The urinal is constructed as in my dry closet application, filed contemporaneously with this except that instead of the zigzag drying plates, it has only one deflecting plate J, Figs. 1 and 2 composed of interlocked sections supported

on hooked hangers *h* which in turn are supported by lugs *l* on the under side of the urinal floor sections. The lower edge of the plate *J* extends directly over the middle of the trough. Behind the urinal stalls is a ventilating space *L* connected by a vent pipe *M* with the stack *E* and as in my other application, air is drawn down under the hopper seats and at the urinal discharge and from the vault up through the stack *E* so that no odors escape into the closet room. Along the top of the urinal back plate is extended a perforated flushing pipe *N* for directing fine jets of water against the back plate to flush the same.

Having thus fully described my invention, I claim—

1. In a water closet, the combination of an inclined trough, detachable hangers therefor projecting from its sides and supporting wedges for said trough and hangers to be interposed between the latter and corbels in the vault walls, substantially as described.

2. In a water closet, the combination of an inclined trough provided on its sides with lugs *g*, the hangers *h* engaging the lugs and trough and having their outer under sides *V*-shaped, and the serrated wedges *I*, substantially as and for the purpose specified.

WILLIAM W. ENSIGN.

Witnesses:

J. THOMSON CROSS,
BERNARD J. HAUSFELD.