

(No Model.)

I. D. SMEAD.
URINAL.

No. 478,648.

Patented July 12, 1892.

Fig. 1.

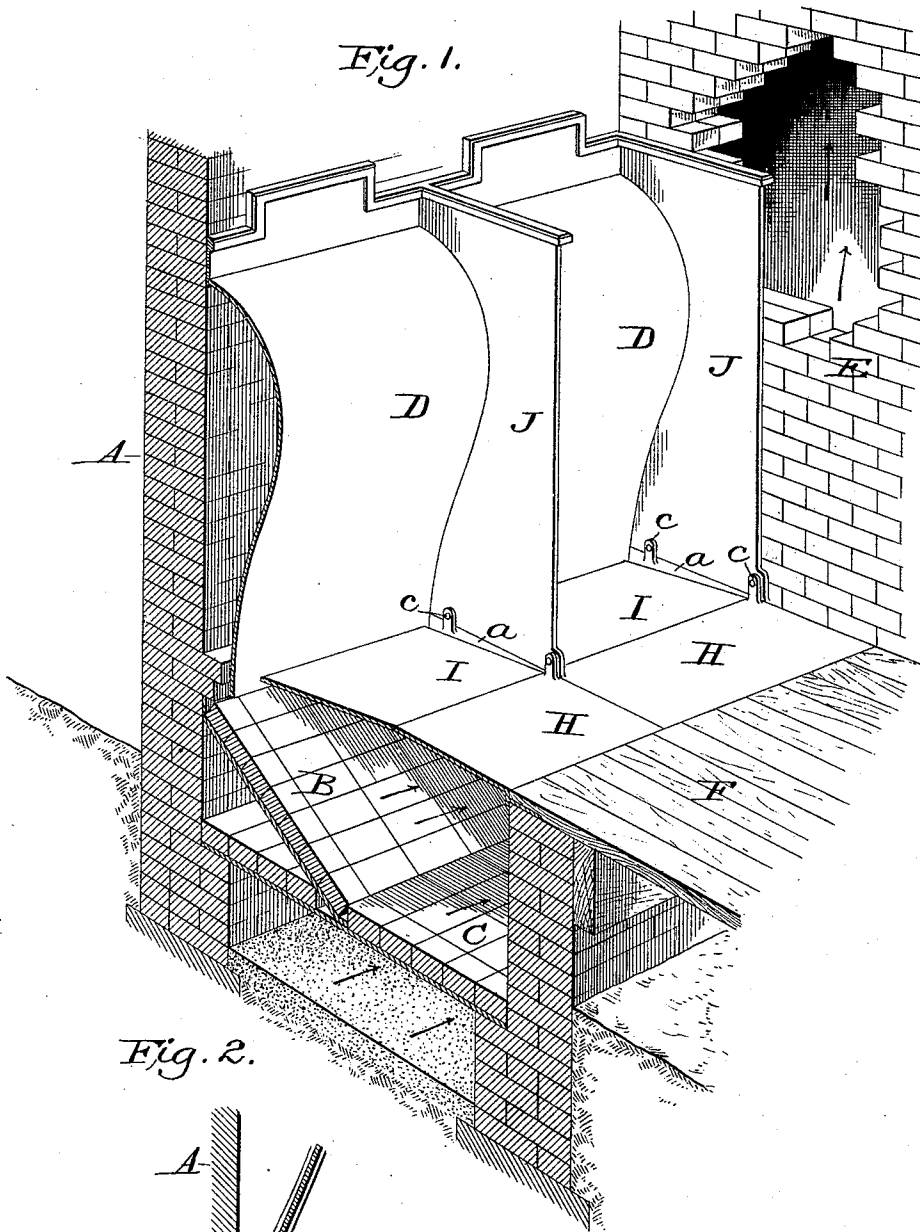
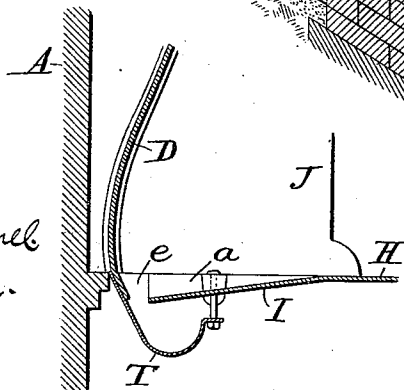


Fig. 2.



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UNITED STATES PATENT OFFICE.

ISAAC D. SMEAD, OF TOLEDO, OHIO.

URINAL.

SPECIFICATION forming part of Letters Patent No. 478,648, dated July 12, 1892.

Application filed December 5, 1891. Serial No. 414,160. (No model.)

To all whom it may concern:

Be it known that I, ISAAC D. SMEAD, a citizen of the United States, residing at Toledo, in the county of Lucas and State of Ohio, have
5 invented certain new and useful Improvements in Urinals, of which the following is a specification.

My present invention relates to urinals; and the invention consists in a novel construction
10 and arrangement of the parts constituting the same, whereby they are specially adapted for use in connection with the well-known Smead dry closets, as hereinafter more fully set forth.

In the accompanying drawings, Figure 1 is
15 a perspective view of a couple of the urinals as applied in connection with the vault of the dry closet. Fig. 2 is a vertical section of one of the urinals, the section being taken at a right angle to the longitudinal axis of a
20 vault and showing the addition of a trough.

Since the introduction into public use of the Smead desiccating or dry closet much difficulty has been encountered in some localities, especially where there is no sewer with
25 which the closet can be connected, in properly disposing of the urine, as it is well known that the constant use of urinals by a large number of persons and where no provision is or can be made for flushing them with water
30 produces a very pungent odor, which not only fills the room in which the urinals are located, but penetrates the passage-ways or halls and other rooms of the building also. The vault of these dry closets is made with a transverse
35 horizontal partition *c*, as shown in Fig. 1, and as described in my Patent No. 363,971, and when the urine, with the other deposits, is allowed to rest on this partition the pores of the brick composing the partition in the
40 course of time become more or less filled with the salts produced by the evaporation of the urine and with other matter, so that the partition loses to a greater or less extent its absorbent qualities, and the urine is apt, if excessive in quantity, to stand in pools or to
45 run off onto the bottom of the lower duct of the vault, where it is not as readily evaporated. It is to remedy these several difficulties that my present invention is designed, the construction and operation of which I
50 will now proceed to describe.

I construct a vault for the dry closet in the usual manner, making it of the necessary length for the required number of closet-seats (not shown in this case) and for the required
55 number of urinals, these latter being preferably located at the end of the vault nearest to the ventilating-shaft E. (Shown at the right hand of Fig. 1.)

The urinals consist of a series of compartments or stalls composed of a curved metallic plate D, secured to the wall, as shown in Fig. 1, and vertical partitions or wings J and metallic floor-plates H, the portion I of the
60 floor-plates within the stalls being inclined toward the rear plate D, as shown in Fig. 1, and more clearly in Fig. 2. These floor-plates are provided with a vertical flange *a* along each
65 side of their inclined portions I, as shown in Figs. 1 and 2, and with ears or projections *c*, by which they are bolted to the wing-plates J, as clearly shown in Fig. 1. The rear edge of these floor-plates do not extend far enough to
70 come in contact with the rear or wall plate D, but stop a little short of the same, thereby leaving a narrow space or slot *e* all along, as shown more clearly in Fig. 2, to permit the urine to
75 pass through as it flows down on the surface of the back plate D, which is curved, as shown, to prevent spattering.

Within the upper portion of the vault I construct an inclined wall or partition B, as shown in Fig. 1, composed, preferably, of brick supported by iron bars, the rear upper
80 edge extending under the lower edge of the back-plate D, so that the urine from the latter will flow down upon the inclined face of the partition B, the front or lower edge of which rests on the horizontal partition C or
85 on the bars which support the same, as shown in Fig. 1. This partition B may be set more or less inclined, its function being to receive and absorb the urine and hold it, or the major portion of it, until it is evaporated and prevent it from accumulating on the flat
90 partition C, along which it sometimes flows, thereby saturating the heaps of the otherwise dried deposits, and which it is desirable to avoid.

By making the partition B inclined and raising it above the horizontal partition C, on
100 which the deposits from the closets rest, the matter is prevented from coming in contact

with this inclined or elevated surface, and thus the pores of the brick composing the incline are prevented from becoming filled, as they would otherwise be, or as are those of the horizontal partition C. The scale formed by the salts of the urine when dried, readily separate from or scale off from the surface of the incline, and can thus be readily removed when occasion requires.

When it is desired to connect these urinals with a sewer, in case there be one convenient, I place under the rear edge of the floor-plates a trough T, as shown in Fig. 2, its rear edge extending up behind the back plate J, as shown. It may be supported by bolts from the floor-plates, as shown, or by bracket secured to the rear wall, or in any other suitable manner, at the option of the builder. This construction of the urinal adapts it for use independently of the closets, also, as all that is necessary when the trough is used is to provide an air-space underneath the floor and connect it with a ventilating-shaft, in which a strong upward current is produced by any suitable means. In all cases the draft of the ventilating flue or shaft should be sufficient to draw a current of air from the stalls down through the slot or space *e* at the rear, thereby carrying off all odors and thoroughly ventilating the room in which the urinals are located. By keeping the windows of the room closed air will be drawn into the room from the connecting hallway or passage-ways, and thus not only will the urinal-room be ventilated, but the halls or passage-ways also.

When used in connection with the Smead system of dry closets, as they are mainly intended to be, the arrangement shown in Fig. 1 obviates the necessity of a separate room or space for the urinals, the same room and the same vault with its air-current being used precisely as though the urinals were not there, the only difference being that the vault is

made longer and a small portion of the air that enters the ventilating-shaft is drawn into the vault through the space or slot *e* in the stalls. By this arrangement the construction of the dry closet and the urinals is simplified and cheapened, the two thus forming one complete and continuous structure. Another advantage is that the urine, although deposited in the same vault, is kept separate and away from the solids in the vault, which therefore dry more rapidly, and thus the operation of the dry closet itself is improved. It will of course be understood that, as is customary with these dry closets, a large volume or current of air will be caused to flow continuously through the vault and up the ventilating-shaft to the outer air above the building, and that a heater will be used in connection with the vault in the usual manner.

Having thus fully described my invention, what I claim is—

1. In combination with a vault having a current of air passing through it, a urinal consisting of an inclined or curved back plate extending downward to the floor and the inclined floor-plate I, with a narrow space or slot between said floor and back plates opening direct into the vault below, substantially as shown and described.

2. In combination with a vault or air-duct, an inclined absorbent partition or wall B, and a urinal constructed substantially as described and having an opening for the passage of the fluid arranged to deliver the same at or near the upper edge of said incline, substantially as shown and described.

In witness whereof I hereunto set my hand in the presence of two witnesses.

ISAAC D. SMEAD.

Witnesses:

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FREDERICK L. GEDDES.