W. B. WHITE.

VAULT HEAD.

APPLICATION FILED MAR. 23, 1904.

976,327.

Patented Nov. 22, 1910.

2 SHEETS—SHEET 1.

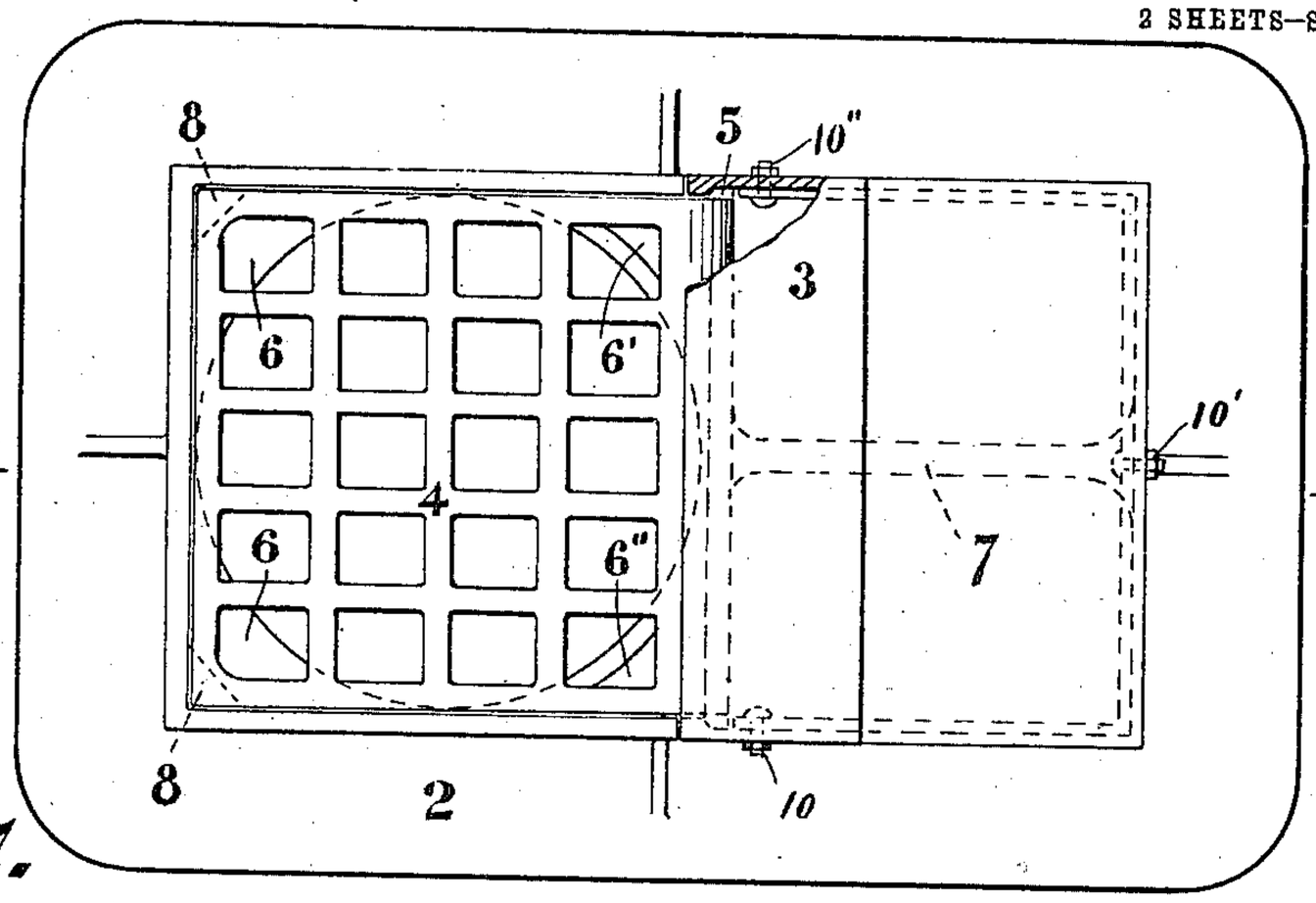

Fig. 1.

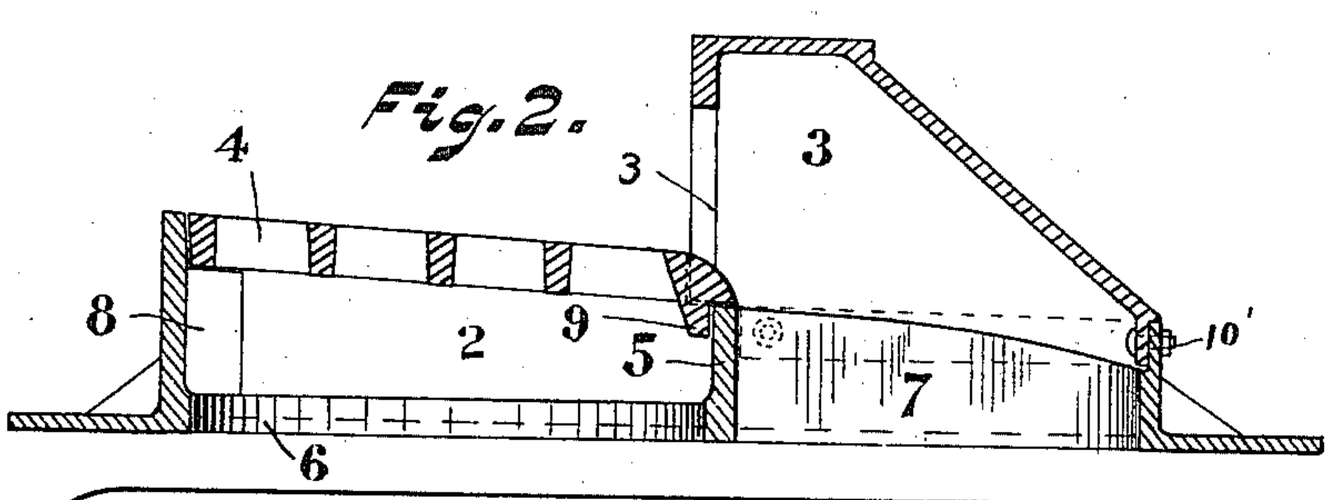

Fig. 2.

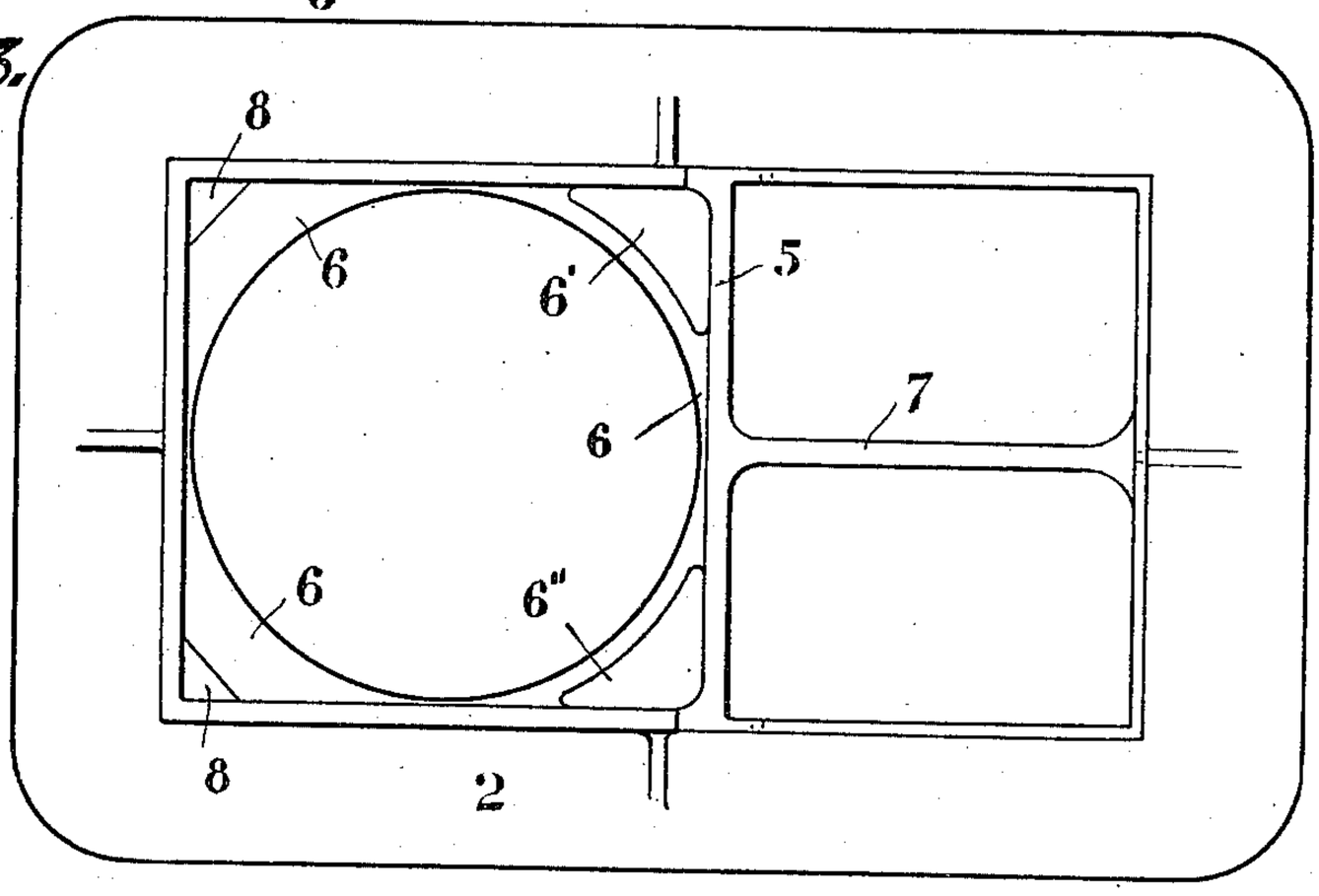

Fig. 3.

WITNESSES

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2 SHEETS—SHEET 2.

Fig. 4.

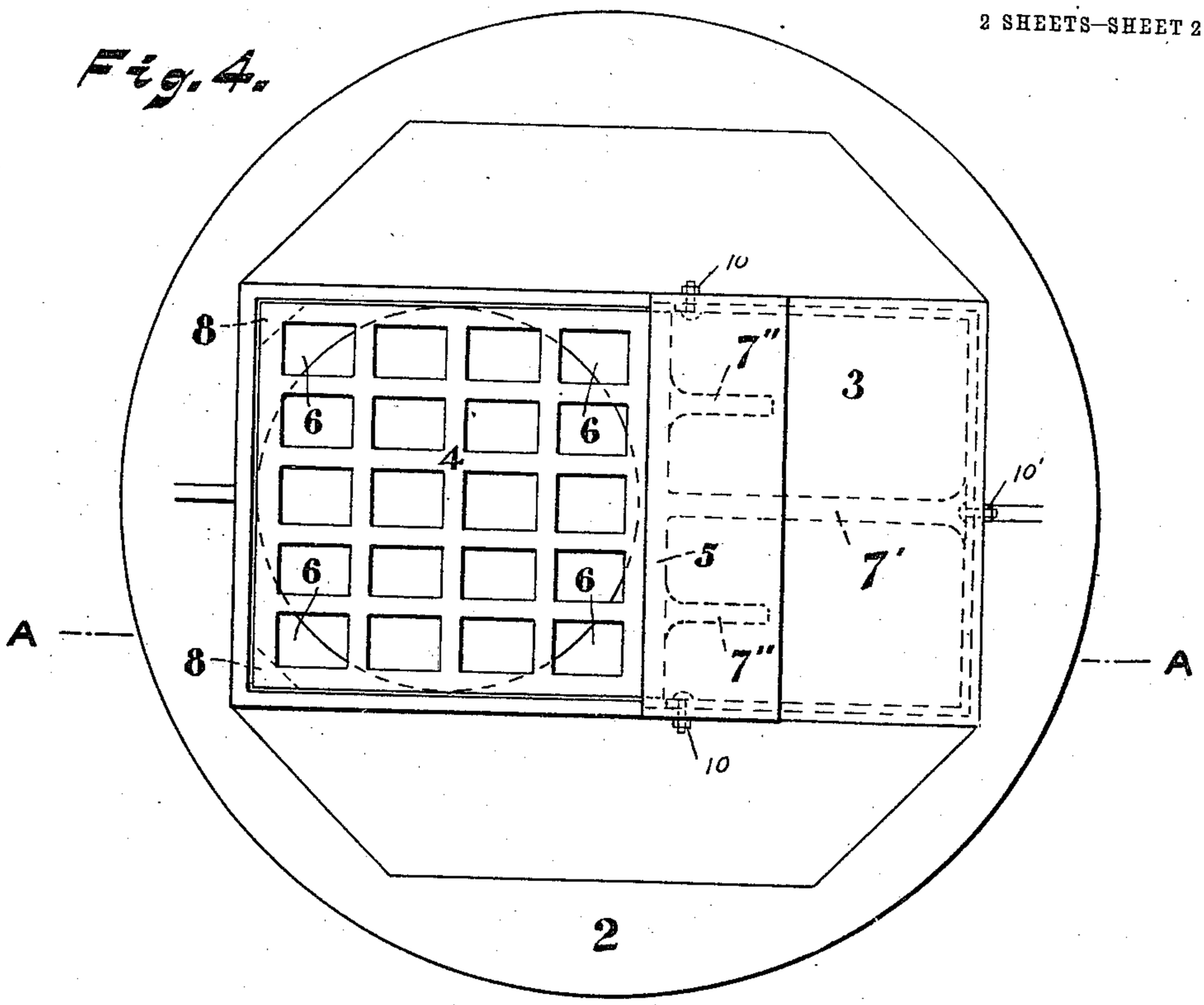
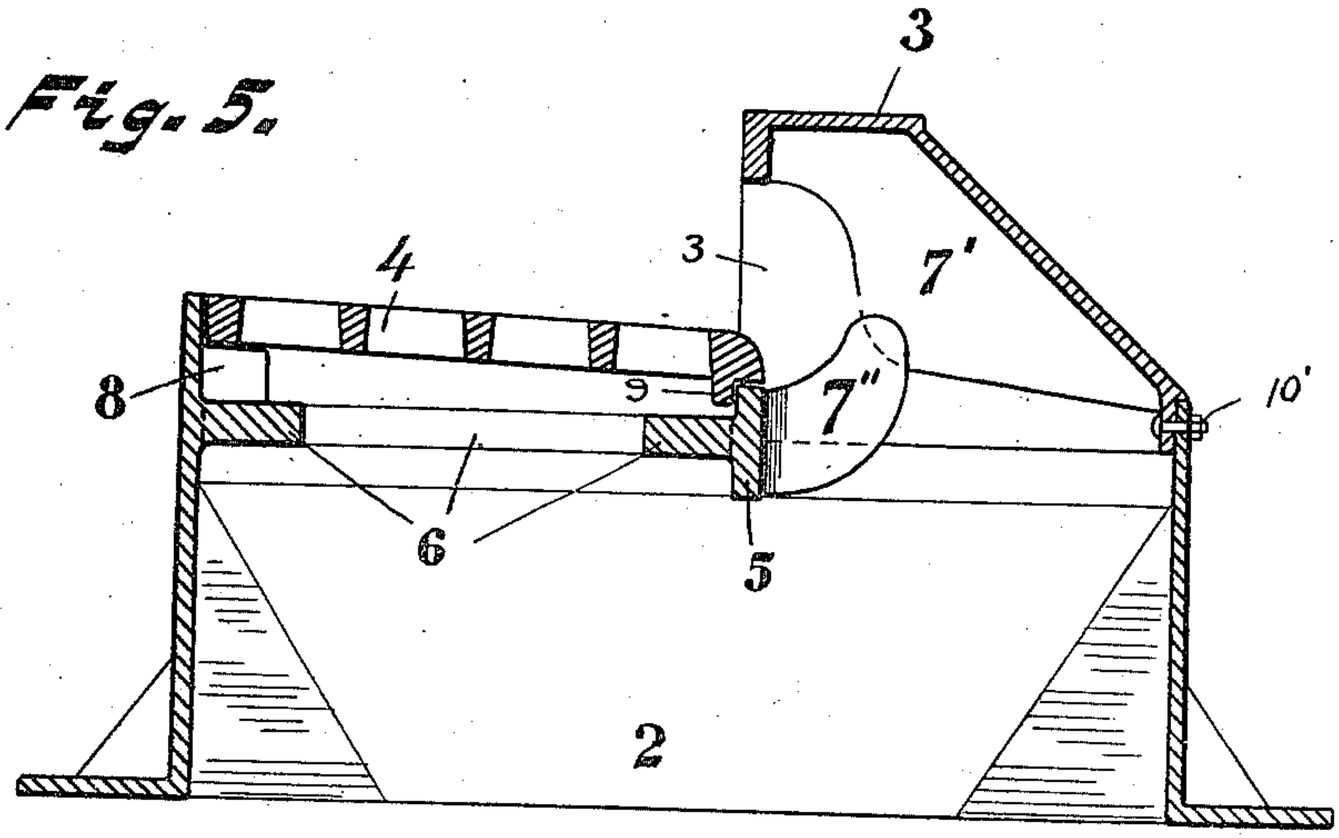


Fig. 5.



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VAULT-HEAD.

976,327. Specification of Letters Patent. Patented Nov. 22, 1910.

Application filed March 23, 1904. Serial No. 199,653.

To all whom it may concern:

Be it known that I, WILLIAM B. WHITE, a citizen of the United States, and a resident of Cleveland, in the county of Cuyahoga and State of Ohio, have invented certain new and useful Improvements in Vault-Heads, which improvements are fully set forth in the following specification.

This invention relates to improvements in structures of that class employed in connection with subterranean vaults, the same serving to control, each the entrance to the vault with which it is conjoined, and being commonly known as "vault heads."

The objects of this invention are, to provide a vault head having a lid and lid seat other than circular in outline, in which it shall be impossible to pass the lid through the aperture in said vault head; which shall be simple and inexpensive as regards construction and durable, efficient and reliable in practical service.

This invention consists in the novel relative arrangement of the various coöperating parts thereof, whereby the attainment of the above objects are rendered practicable; in certain combinations; and in certain details of construction, all of which will be specifically referred to hereinafter and set forth in the appended claims.

My invention is clearly illustrated in the accompanying drawings, wherein similar reference numerals designate corresponding parts throughout the several views, and in said drawings: Figure 1. is a top view of a vault head embodying my said improvements, the lid made use of being shown in the form of a grate, and a part of said vault head being broken away to more clearly show the construction thereof. Fig. 2. is a vertical section taken along line A. A. in Fig. 1. Fig. 3. is a top view of the main member of the vault head, the lid and hood being removed. Fig. 4. is a view similar to Fig. 1, showing however a slightly modified form of my invention and, Fig. 5. is a vertical section taken along line A. A. in Fig. 4.

The form of vault head which I make use of to illustrate my invention is, what is commonly known as a receiving head, such as are used in the gutters of streets for taking the water therefrom into the receiving basin in connection with which the head is used. Referring to the drawings, the said vault head in a general sense comprises a main member 2, a hood 3 and a lid 4; the hood being permanently secured to the main member by the bolts 10, 10′ and 10″ and the lid being removably set to span a portion of the aperture in said main member. When set for service in the street the base or flanged bottom of the main member rests on the masonry of the vault, while the top and front side of the hood set flush with the top and front side of the curb respectively, the top of the lid registering flush with the pavement in the gutter.

Referring to Figs. 1, 2 and 3 of the drawings, 5 represents a dividing cross bar preferably cast integral with the main member 2 as shown joining the opposite sides thereof and forming a seat for one side of the lid, and 7 represents an obstructing bar also preferably cast integral with the main member joining the said dividing bar with the end wall of the said main member under the hood.

6 represents a web preferably cast integral with the main member, located preferably in or near the plane of the base or flanged bottom of said main member; the said web serving to contract the substantially square opening in the main member spanned by the lid, to a circular opening, the said circular opening having a diameter less than the shortest side of the lid.

6′ and 6″ represent perforations in the web 6, which serve to decrease the otherwise greater obstruction to the water in passing through the lid into the vault.

In the front corners of the aperture spanned by the lid there are lugs 8 and 8′ formed integral with the main member for supporting the front end of the lid, the other or rear end of the lid being supported by the cross bar 5 as hereinbefore mentioned; and on the under side of the said lid there is cast a lug or rib 9 adapted to engage the dividing bar 5 to prevent the movement of the said lid into the side opening of the hood.

It will be observed that the contracted opening formed by the interior web 6, having a diameter less than the shortest side of the lid, makes it impossible for the lid to be passed through the said contracted opening in any manner. Likewise the obstructing bar 7 prevents the lid from being passed through the vault head under the hood.

It is obvious if the side aperture 3′ in the hood is contracted so that it is impos-

sible to pass the lid under the hood viz.: through the said aperture above the cross bar 5 the obstructing bar 7 will then be unnecessary. The manner in which I would preferably contract said aperture would be to decrease the width of same and form large rounded corners at the top thereof, and at the same time raise the cross bar 5 so that the top of same registers flush with the top of the lid in its normal position. In raising the cross bar 5 it is evident that the edge of the lid, shown in the drawing resting on the cross bar 5, will have to be cut away, and a suitable support under the lid adjacent to the cross bar 5 must be provided in place thereof. It will be understood of course also if the depending rib 9 is made of sufficient depth it would also prevent the passing of the lid through the said aperture even if the same be not contracted as above mentioned.

In the modified form of my invention, shown in Figs. 4 and 5, the main member 2 in general outline is shown as having greater depth, tapering side walls and a circular base. On account of said tapering side walls and consequent greater width at the base of said member, it is manifestly desirable to cast the web 6 near the top of the said member as shown; the dividing cross bar 5 being also correspondingly formed near the top of said main member in this case. Instead of the obstructing bar 7 being cast upon the main member, as I have shown it in Figs. 1, 2 and 3, I may form it integral with the hood 3, the same in this case projecting down therefrom and taking the form of a rib 7′ to cut the space beneath the hood and obstruct the opening thereof. I also show rearward extensions 7″—7″ cast integral with the dividing bar 5, projecting rearwardly and upwardly into the space beneath the hood on either side of the obstructing rib 7′. It will be understood, referring to Fig. 5, if the extensions 7″ are made to extend upwardly into the hood far enough the middle obstructing rib 7′ may be dispensed with entirely and in this case only one extension would be necessary which, I would then preferably locate at the middle of the dividing cross bar.

Having described my invention, what I claim is:—

1. In a vault head having an entrance opening, the combination with a lid for covering part of said opening and a hood for covering the remainder, of seats for the lid and an obstructing bar crossing that part of the vault head opening covered by the hood, substantially as described.

2. In a vault head having an entrance opening, the combination with a lid for covering part of said opening, a hood for covering the remainder, and seats for the lid; of a dividing bar on which one edge of the lid rests, and an obstructing bar crossing that part of the opening covered by the hood at an angle to the said dividing bar, substantially as described.

3. In a vault head having a rectangular entrance opening, a lid for partly covering the same and a hood for covering the remainder; the combination with a dividing bar dividing the two portions of the opening, a web with a circular opening beneath the lid smaller in diameter than any side of the lid, and an obstructing bar set at an angle to the dividing bar and projecting across that portion of the opening covered by the hood, substantially as described.

4. In a vault head having an entrance opening, a dividing bar dividing the said opening into two portions, a lid covering one of said portions, and a hood covering the other, an obstructing bar set at an angle to the dividing bar, and crossing the space beneath the hood, and extensions from the dividing bar projecting into the space beneath the hood on either side of said obstructing bar, substantially as described.

5. In a vault head having an entrance opening, a dividing bar dividing the said opening into two parts, a lid for covering one of said parts, and a hood for covering the other part, the said dividing bar having rearward extensions under said hood, substantially as described.

6. In a vault head, a main member having a base flange, a rectangular opening therein, walls rising from said base and surrounding said opening, a cross bar cast into said walls dividing the opening into two spaces, an obstructing bar cast with and projecting from said cross bar across one of said spaces to the wall thereof, a horizontal web cast on the walls of the other of said spaces, and provided with a central circular opening of a diameter less than the length of any of said walls, and lid seats cast on said walls above said web, substantially as described.

7. In a vault head having an entrance opening, the combination with a lid for covering part of said opening and a hood for covering the remainder of said opening, of supports for the lid and means for obstructing that part of the opening covered by the hood, whereby the lid cannot pass downward through the hood.

8. A vault head having an entrance opening which is rectangular at the upper edge of the body of the vault head, a rectangular lid covering a portion of same, said entrance opening below said lid being circular in outline and smaller in diameter than any side of the lid, a hood covering that part of the entrance opening not covered by the lid, and means to prevent the lid passing down through the hood.

9. A vault head provided with a lid covering one portion thereof and a hood covering

its other portion, and means to prevent the lid passing down through the vault head, through the hood or through the opening below the lid.

10. A vault head comprising a main body portion, a removable lid covering a portion of said body portion, a permanent hood covering the remainder of the body portion, and means to prevent the lid passing down through the hood.

11. A vault head having an entrance opening therein, a dividing bar dividing the said opening into two portions, a lid covering one of the said portions, and a hood covering the other, an obstructing bar crossing the space beneath the hood, and a lug on the lid adapted to engage the dividing bar and normally hold the lid outside of the hood, whereby said lid must be bodily lifted before it can be moved back into the hood.

12. A vault head comprising a main, horizontal frame provided with an opening and a dividing bar extending across said opening to divide said opening into two portions, a slidable lid covering one of said portions, and a hood to cover the other portion, the lid being adapted to slide into the hood.

13. A vault head comprising a main frame provided with an entrance divided into two portions by a transverse bar, a hood covering one of said portions, a non-circular lid covering the other portion, the frame being provided with a circular opening below the lid, said circular opening being of less diameter than the smallest diameter of the lid, whereby the lid cannot be passed down through said circular opening.

14. A vault head comprising a main horizontal frame formed with an opening and a dividing bar extending across said opening to divide said opening into two portions, a slidable lid covering one of said portions, a hood to cover the other portion, the lid being adapted to slide into the hood, and means to prevent the lid passing downwardly through that portion of the opening under the hood and to prevent it passing downward through the opening normally covered by said lid.

15. A vault head comprising a main horizontal frame formed with an opening, a dividing bar extending across said opening to divide it into two portions, one of said openings being circular, a hood covering the non-circular opening, a non-circular lid supported in the frame over the circular opening, the smallest dimension of the lid being greater than the diameter of the circular opening, said lid being adapted to slide into the hood, and an obstructing bar within the hood to prevent the lid passing downwardly through the opening in the main frame under the hood.

16. A vault head comprising a main horizontal frame provided with a circular opening, a non-circular lid means within the frame to support said lid over the circular opening, said lid being adapted to slide on the frame beyond the circular opening, said opening being smaller in diameter than the smallest dimension of the lid, and means to prevent the lid passing down through the frame when said lid is moved beyond the circular opening.

In testimony whereof, I have signed my name to this specification in the presence of two subscribing witnesses, this nineteenth day of March 1904.

WILLIAM B. WHITE.

Witnesses:
CHAS. F. HOME,
A. W. KURZ.