

(No Model.)

A. G. MYERS.

WATER CLOSET.

No. 274,644.

Patented Mar. 27, 1883.

Fig:1.

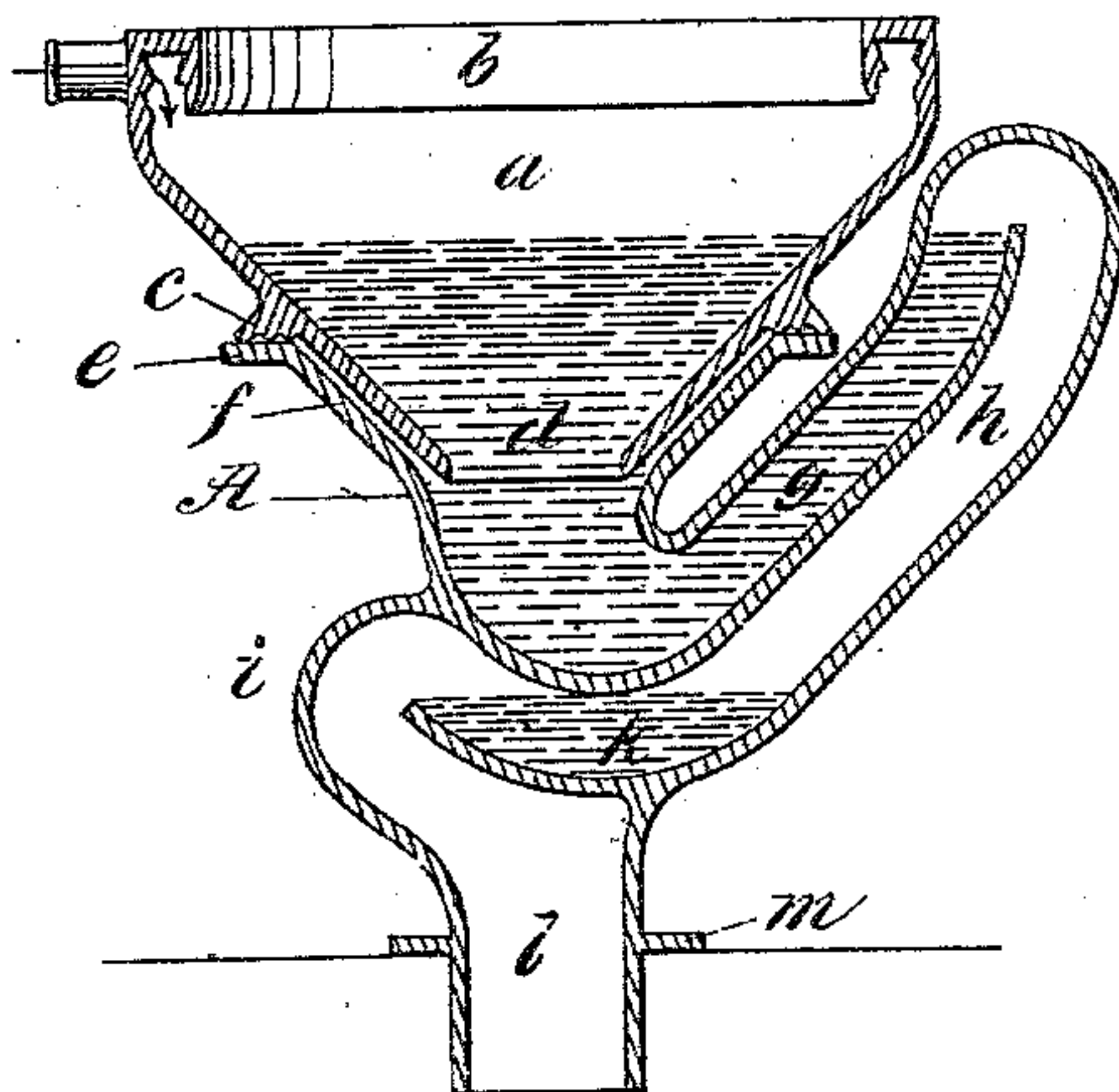
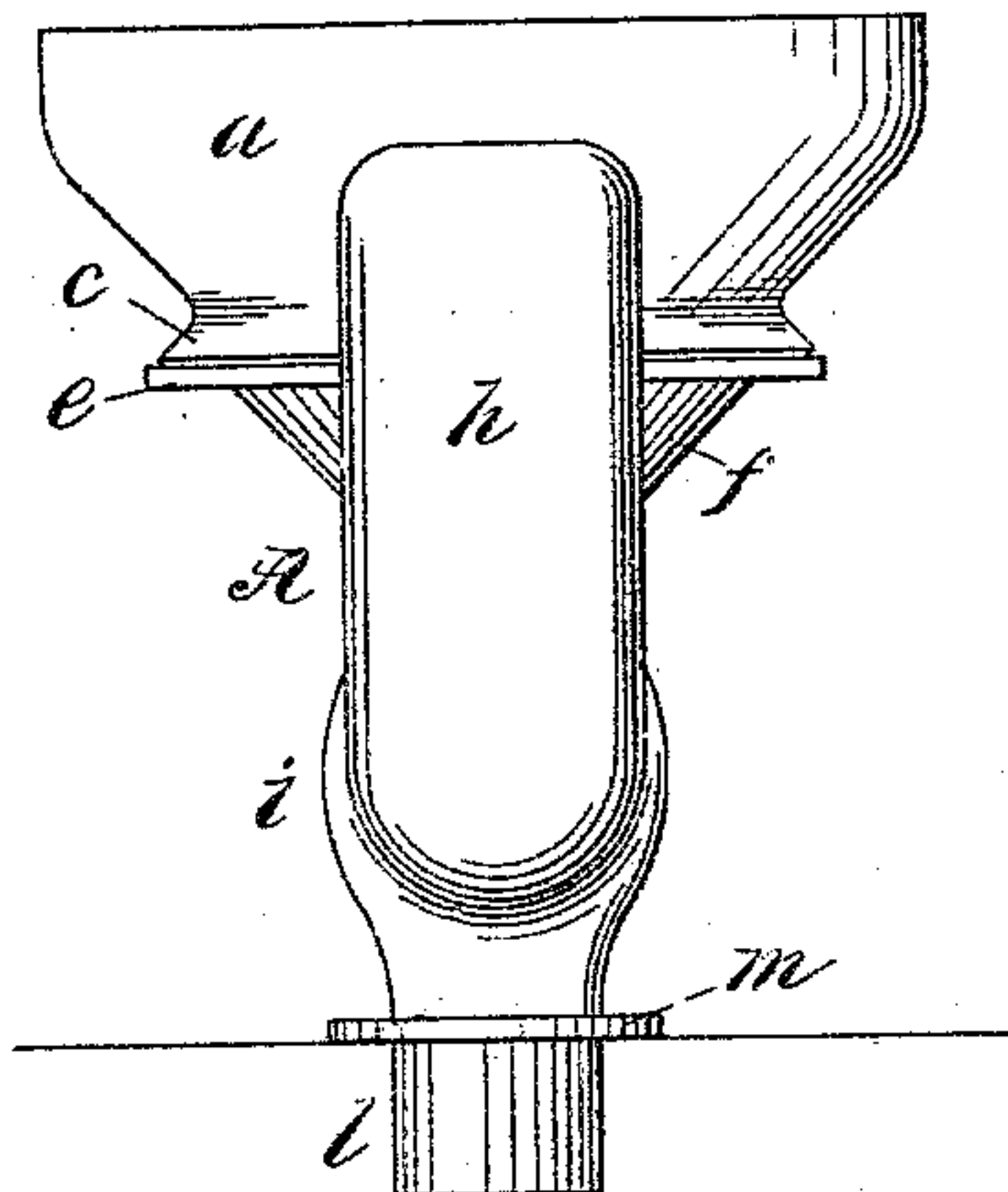


Fig: 2.



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UNITED STATES PATENT OFFICE.

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WATER-CLOSET.

SPECIFICATION forming part of Letters Patent No. 274,644, dated March 27, 1883.

Application filed November 10, 1881. (No model.)

To all whom it may concern:

Be it known that I, ANDREW G. MYERS, of New York city, county and State of New York, have invented certain new and useful Improvements in Water-Closets, of which the following is a specification.

My present invention relates to what are commonly termed "trap" or "hopper" closets, which are destitute of any valves or tip-pans between the basin and sewer-pipe, and in which the basin or hopper opens directly into a trap, siphon, or other tortuous water-passage which intervenes between the neck of the basin and the sewer or waste pipe. My improvement has especial relation to closets of this kind which have a positive siphon-passage leading from the base of the hopper and rising to nearly the top thereof, and thence returning underneath the hopper to connect with the underlying trap or sewer. The action of this siphon is to suddenly withdraw the contents of the basin and clear the closet when the basin is flushed with water as high as the bend of the siphon, which of course floods the siphon and causes it to act energetically to empty and cleanse the closet, while the afterwash in the basin will subsequently rise in the short leg of the siphon without overflowing the bend, and thus produce a water-seal during disuse. Heretofore this construction has been embodied in specially-constructed closets wherein the basin or hopper and its siphon-base are formed together, rendering the construction expensive, and if one part should become injured the whole must be condemned. In one case, however, the siphon-base has been made separate from the basin, but in two parts—viz., a trap or siphon and an elbow which connects with the sewer. Now, my improvement aims to provide a separate and distinct siphon-base, formed in one piece or structure, adapted to receive a separate hopper or basin, such as now used in common hopper or pan closets, thereby forming a very cheap and efficient closet and utilizing common basins or hoppers, which are now readily and cheaply obtainable; and my invention consists in certain combined details of construction contributing to this end, as hereinafter fully set forth.

Figure 1 of the annexed drawings presents a sectional front elevation of my improved

siphon-base for water-closet basins, showing a common basin connected therewith. Fig. 2 is a side elevation of Fig. 1.

In the drawings, *a* indicates a common water-closet basin such as used in ordinary pan-closets, having on its upper edge the usual flushing-rim, *b*, near its base a seating-shoulder, *c*, and terminating with a contracted neck, *d*.

A indicates my improved siphon-base, which is formed with a shoulder, *e*, to receive the shoulder *c* of the basin, and with a flaring mouth to receive the neck *d* of the basin, the joint between the basin and base being made tight with cement, and the two held together by ordinary clamps, as is well understood by plumbers. The base *A* is formed with a tortuous passage or siphon, *g h*, the short leg *g* of which extends in an easy curve from the flaring mouth *f* of the base beneath the neck of the basin, and rises at a slight outward inclination to a point near the top of the basin, where the short leg bends into the long leg *h*, which thence descends upon the short leg to a point directly beneath the origin of the short leg, where it opens into an intermediate swell, *i*, in the base, from which swell the discharge-neck *l* extends downwardly to connect with the usual trap or sewer-pipe underlying the closet. The neck *l* has the usual supporting shoulder or rim, *m*, to rest upon the floor and support the closet. The swell *i*, as will be noted, bulges outward and upward slightly on the side opposite to the entrance of the long leg of the siphon, which long leg, as will be seen in Fig. 1, does not open directly downward into the swell, but is bent or curved slightly upward, following the direction of the swell, and parallel with the curve by which the short leg *l* blends into the mouth *f* of the base, as shown; hence the upturned end of the long leg in the swell *i* forms a pocket, *k*, which, when the closet is at rest, will usually hold water up to the level shown, and which water will touch or slightly submerge the convex bend or wall forming the partition between the mouths of the long and short legs, as seen in Fig. 1, thus forming a seal and confining a quantity of air in the long leg and bend of the siphon, as shown in Fig. 1.

The water-supply is presumed to be so regulated to the closet that the afterwash will fill

the basin to about the level shown in Fig. 1—that is, just to or slightly above the bend of the siphon *g h*. Consequently a body of water will normally remain in the basin and leg *g* to this level, rendering the closet ready for use and forming a seal to its passages. When the closet is used, however, and as soon as the flush of water is admitted to cleanse the closet, the water, being admitted in a large volume, will suddenly raise the level and quickly overflow the bend of the siphon and run down the long leg, thereby flooding the siphon and starting it into action, which will now act to withdraw the entire contents of the basin rapidly and forcibly, and discharge the same downward with energy into the sewer-pipe below, thus effectually cleansing the closet. When this flushing and cleansing action subsides, the afterwash will enter the closet gradually, and rise in the basin and short leg to the level shown, as before described, and the pocket *k* will of course also retain its charge of water, thus forming a double seal in the passages of the closet. The water in the pocket *k*, however, serves another purpose besides a seal, as will now appear—that is, it imprisons a column of air in the long leg and bend, and hence offers an appreciable resistance to the overflow of water from the short leg; hence the level of the water in the basin and the short leg might be slightly raised; or a considerable quantity of water might be poured into the same in a gradual manner without flooding the siphon, as the overplus would simply trickle over the edge of the dividing-wall between the two legs, run down the outside of the wall into the pocket *k*, and thence flow over the edge of the pocket, whereas if no slight resistance were offered to the overflow of water at the bend the siphon would be apt to become flooded, and to empty the entire contents of the basin when the level was slightly increased. It will be seen, however, that by means of the sealing-pocket *k* this unintentional siphoning of the closet is prevented. Consequently the afterwash might continue to run a little longer than necessary to fill the siphon; or a person might urinate into the basin without throwing the siphon into action, which will be caused only by the rush of the flushing-stream of water into the basin, thus rendering the closet more perfect and certain in its actions than would otherwise be the case. It will be also seen that, by reason of the upturned discharge of the long leg *h* into the swell *i* and neck *l*, the soil carried by the stream of water will be dashed against the sides of the swell *i*, and thus broken up, and that the surfaces of the swell and neck *i l* will be more effectively cleansed or washed by the dashing of the water thereagainst, and by its

indirect and surging passage, due to the zigzag, curved form of the passages, thus causing the closet to empty and cleanse itself more thoroughly.

My improved siphon-base *A* is preferably made of cast-iron in one piece, as illustrated in the drawings, and but one web forms the division between the long and short legs *g h*, the legs and other passages being formed by coring in the usual manner, as will be understood; hence by forming the bases *A* in this manner they are adapted to combine, as shown in the drawings, with the cheap basins made for pan-closets, which are now but little used, and will thereby form a very cheap and salable closet, and one which is very simple and effective in action as well as compact and neat in its form.

Any suitable water-supplying or flushing devices may be used in connection with this closet; but I prefer to use the supply-tank and devices shown in my pending application filed October 26, 1881, No. 44,547.

It may be understood that the siphon-base may be made without the pocket *k*, if desired.

What I claim is—

1. A separate or detached water-closet base adapted to combine with a common basin or hopper to form a siphon water-closet, constructed with the mouth and shoulders *e f* to receive the basin, the siphon-legs *g h*, adapted to rise up along one side of the basin and return below the same, with the discharge-neck *l* in line with the necessary neck *d*, or nearly so, and the base or rim *m*, all arranged and adapted to operate substantially as herein shown and described.

2. A siphon-base for water-closet basins or hoppers, formed with the mouth *f* to receive the basin, the neck *l* to connect with the sewer-pipe, and the intermediate swell, *i*, with the siphon *g h*, extending from the mouth to the swell, and pocket *k*, terminating the siphon in the swell, substantially as and for the purpose set forth.

3. As a new article of plumbers' ware, a water-closet-siphon base formed with a mouth and shoulder on the top to connect with a basin, siphon-legs *g h*, rising above the said mouth and returning down below the same, and terminating with the discharge-neck *l*, to connect with the sewer, and all formed in one piece or structure, and adapted to combine with a common basin to form an improved siphon water-closet, substantially as herein shown and described.

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Witnesses:

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