W. S. GRAHAM.

LAVATORY APPARATUS.

APPLICATION FILED SEPT. 28, 1908.

1,144,704.

Patented June 29, 1915.

3 SHEETS—SHEET 1.

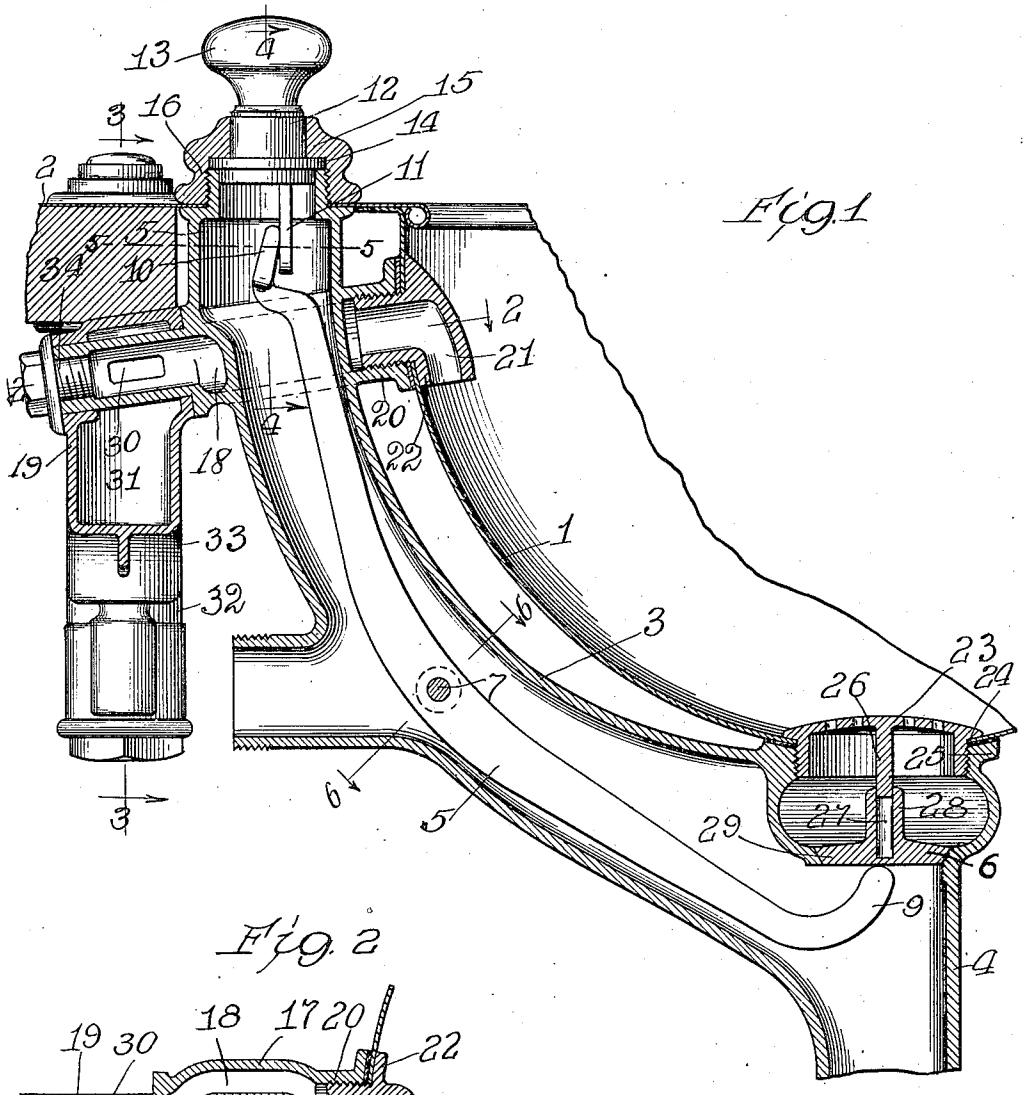
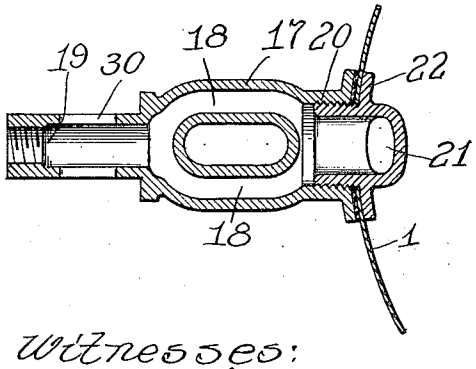


Fig. 1

Fig. 2



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3 SHEETS—SHEET 2.

Fig. 3

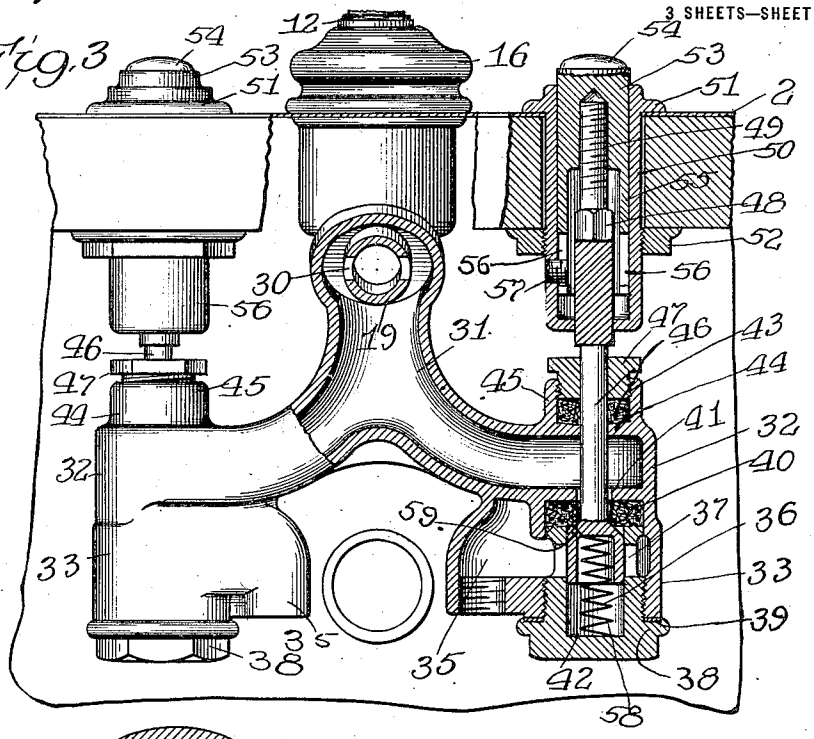


Fig. 4

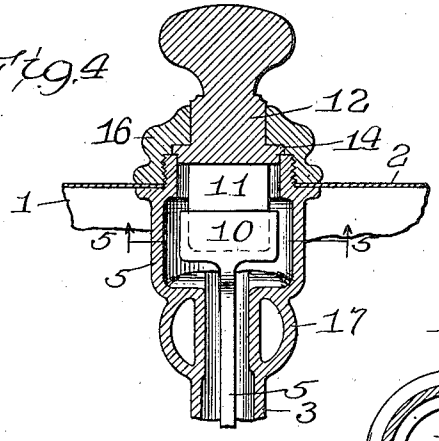


Fig. 6

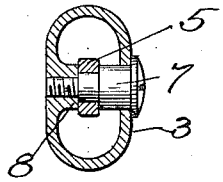
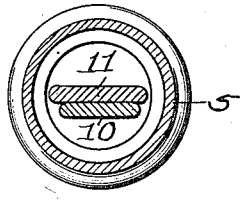


Fig. 5



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3 SHEETS—SHEET 3.

Fig. 8

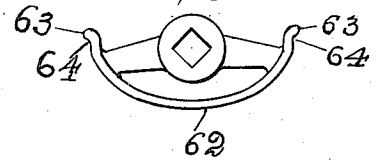
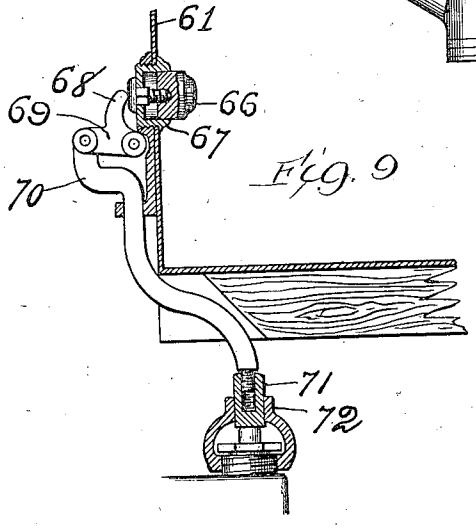


Fig. 7

Fig. 9



Witnesses

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UNITED STATES PATENT OFFICE.

WILLIAM SYDNEY GRAHAM, OF CHICAGO, ILLINOIS, ASSIGNOR TO FEDERAL-HUBER COMPANY, OF CHICAGO, ILLINOIS, A CORPORATION OF ILLINOIS.

LAVATORY APPARATUS.

1,144,704. Specification of Letters Patent. Patented June 29, 1915.

Application filed September 28, 1908. Serial No. 455,177.

To all whom it may concern:

Be it known that I, WILLIAM SYDNEY GRAHAM, citizen of the United States, residing at Chicago, in the county of Cook and State of Illinois, have invented certain new and useful Improvements in Lavatory Apparatus; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same.

This invention relates to a novel construction in lavatory apparatus including the arrangement and mode of operation of the water supply valves and the valve controlling the waste, the object being to provide a device of this character in which the basin top is substantially free of projections and which is simple and efficient in construction and operation, and consists in the features of construction and combinations of parts hereinafter fully described and claimed.

In the accompanying drawings illustrating this invention: Figure —1— is a fragmentary central vertical section of a basin constructed in accordance with my invention. Fig. —2— is a fragmentary detail section on the line 2—2 of Fig. —1—. Fig. 3—3 is a detail fragmentary section on the line 3—3 of Fig. —1—, part of this view being shown in elevation. Fig. —4— is a fragmentary detail section on the line 4—4 of Fig. —1—. Figs. —5— and —6— are respectively sections on the lines 5—5 and 6—6 of Fig. —1—. Fig. —7— is a fragmentary central vertical section partly in elevation showing the waste valve operating device disposed on the splash board. Fig. —8— is a detail view in elevation of the cam employed to actuate the lever controlling the waste valve. Fig. —9— is a fragmentary detail vertical section showing the push buttons operating the cocks disposed on the splash board and the manner of connecting the same with said cocks.

The object of my present invention is to provide a basin in which all valve mechanism is disposed underneath the slab or basin top whereby the exposure of a lot of nickel plated ware above the slab or basin top is avoided, thus not only economizing space but also obviating the necessity of continually polishing such ware.

A further object of my invention is to provide a basin in which the valve mechanism controlling both supply and waste is not only simple and efficient but so disposed as to economize space to the greatest possible degree.

Another object of my invention is to provide means whereby the basin may be easily removed and replaced without disturbing the service pipe connections.

The invention consists particularly in providing a fixture which is entirely separate from the basin, slab and splash board and comprises the service and waste pipe connections of the basin and is adapted to be easily and quickly coupled with the same without necessitating access underneath the basin and slab or back of the splash-board for the purpose of removing any fastening or coupling devices.

In other words the invention consists primarily in providing only exposed and easily accessible coupling means between the fixture mentioned and the said bowl and slab or splash-board.

The invention consists further in providing means actuating the cocks, and waste valve disposed below the slab from points above the upper face of the latter, including points on the splash board, said actuating means having no connection with and being separable from the said cocks and carried by the slab or splash board and removable with the latter.

The invention consists further in the means provided for adjusting the valve actuating means with relation to the valve-stems to prevent lost motion.

The invention consists also in certain details of construction which will hereinafter appear and by means of which certain advantages are gained.

In the accompanying drawings, —1— indicates the bowl of a basin and —2— the slab or basin top. In the instance illustrated these parts are shown as made of metal, though it will be understood that any other material may be employed.

The valve mechanism controlling the water supply is separate and distinct from the basin but is capable of being easily attached thereto. The said mechanism comprises a pipe —3— passing from the slab or basin top —2— to the waste pipe —4— and in which a lever —5— is disposed which

controls and actuates the valve —6— controlling said waste pipe —4—, the latter being integral with said pipe —3—. The said lever —5— is pivotally mounted between its ends within said pipe —3— by means of the set screw —7— entering said pipe —3— through a lateral opening and having its threaded end entering a threaded opening in a flange —8— on the opposite wall of said pipe —3—. At its lower end the said lever —5— is provided with a projection —9— extending at an angle of about 90 degrees to the lower end portion of said lever and which bears upon the lower face of the valve —6—. At its upper end said lever —5— is equipped with a cross head which is adapted to be engaged by the projection —11— extending downwardly from the lower face of a revoluble member —12— equipped with a knob —13— by means of which it is turned. Said member —12— is provided between its ends with an annular flange —14— resting upon the upper end of said pipe —3— and confined between the latter and the overhanging flange —15— of a union nut —16— engaging the externally threaded upper end portion of said pipe —3—. The said projection —11— being disposed eccentric to the member —12— serves when said member is turned in either direction to move the upper end of said lever —5— rearwardly, thereby elevating the projection —9— at the lower end of said lever and opening the said valve —6—. The latter closes by gravity when said member —12— is returned to the position shown in Fig. —1—. Integral with said pipe —3— and surrounding the same are the walls —17— of passages —18— through which water is adapted to flow from the service pipes into the basin, said passages terminating at one end in a pipe —19— connected with the service pipes and at their other end in a pipe —20— to which the nozzle —21— is adapted to be secured, the bowl of the basin —1— being confined between an annular flange on said pipe —20— and a flange —22— of said nozzle. In the bottom of the basin and entering the upper end of said waste pipe —4— is a perforated cap —23— equipped with an annular flange —24— between which and a similar annular flange —25— on the upper end of said waste pipe —4— said bowl —1— is confined, the said cap —23— having threaded engagement with the mouth of said waste pipe —4—. The said pipe —19— is provided with oppositely disposed slots —30— through which said pipe communicates with the outlet end of a discharge nozzle —31— connecting with the valve casings —32— of hot and cold water cocks —33—, disposed on opposite sides of said pipe —19—. Said pipe —19— passes through cpposite walls of said discharge nozzle —31—, the latter being secured to said pipe by means of a flanged nut —34— in an obvious manner.

The hot and cold water supply connections are identical; they comprise casing 32 provided at one side with a passage —35— connected with the service pipe, the said passage communicating laterally with the valve-chamber 36. Each casing is provided with a valve having a stem 46 which passes through an opening in wall 44. The said stem 46 is cylindrical on which the lower end of a rectangular member —48— rests, the latter being provided at its upper end with a threaded stem —49—. Secured to the basin top is a sleeve —50— provided adjacent its upper end with an annular flange —51— resting upon the basin top and between which and a nut —52— the basin top is confined. In the lower wall of said sleeve —50— is a rectangular opening in which said member —48— is longitudinally movable. The said stem —49— of the latter enters the central threaded opening in a plunger —53— longitudinally reciprocable in said sleeve —50—, and upon the upper end of which the usual porcelain button —54— is mounted. The said plunger —53— is provided at its lower end with an annular flange —55— which is provided with a plurality of longitudinal slots —56—, into one of which the set screw —57— mounted in a laterally disposed threaded opening in said sleeve —50— is adapted to project to hold said plunger —53— against rotation relatively to said sleeve —50—.

The operation, or more particularly, the manner of adjusting the cocks or valves above described is very simple and efficient. After said sleeve —50— has been mounted in the basin top the plunger —53— carrying the member —48— is dropped into place, the set screw —57— being at this time removed. Owing to the fact that said member —48— is incapable of rotation relatively to said sleeve —50—, its position with relation to the plunger —53— and valve stem —46— is very easily adjusted by merely rotating said plunger —53— until the latter is supported at the desired elevation above the upper face of the basin top, said plunger being supported upon the valve stem —46— in an obvious manner. After the position of the plunger —53— has been properly adjusted the said set screw —57— is inserted and by its projections into one of said slots —56— prevents rotation of said plunger relatively to said sleeve —50— and said member —48.

In order to remove the basin it is necessary to only remove the nozzle —21—, perforated cap —23—, and the member —12—, whereupon the basin and the basin top are readily removed without disturbing the cocks or necessitating shutting off the water. Furthermore I am enabled to readily make

fluid tight the joints between the basin and the service and soil connections.

It will be noted that a great deal of room on the basin top is economized by disposing the cocks below the same, this being very desirable. The absence of the cocks from sight also avoids the necessity of polishing and plating the same thereby reducing cost and economizing the labor of cleansing and polishing the fixtures after installation.

I have used the words "basin top" more generally throughout the above specification than the more commonly used term "slab" as I desire to include in said words "basin top" either or both the slab and the splash-board.

In Figs. —7— to —9— inclusive I have shown the member controlling the waste valve and the push buttons controlling the basin cock disposed on the splash board thus leaving the slab free of projections. The member —60— is revolubly mounted in the splash board —61— and carries the cam —62— disposed behind said splash board. The lever —5— controls the waste valve by having the free end of the lever engaged and depressed by the end portions of the cam —62— when the latter is turned thereby opening said valve as will be obvious.

In the modification shown in Fig. 9 the push buttons or plungers —66— are longitudinally movable in sleeves —67— mounted in the splash board and at their inner ends engage the projection —68— of levers —69— pivotally secured at one end to the splash board in any suitable manner and pivotally secured at their other ends to plungers —70— at one end of the latter, the other ends thereof bearing upon the upper ends of plungers —71— movable in guides —72— disposed upon the upper ends of the casings of the basin cocks and which said plungers —71— bear upon the valve-stems. Said plungers —71— are adjustable in length as they consist of two parts having threaded connection with each other, one of said parts being polygonal and fitting the polygonal opening in the guide —72—. The said plungers —71— are also suitably guided and are bent between their ends for obvious reasons.

I claim as my invention:

1. In a lavatory, the combination with a bowl, of an integral fixture curved around the side of said bowl and comprising a transverse conduit or passage for the supply of water, an outlet conduit for waste water, and means taking through the wall of the bowl and into the conduits whereby the bowl is held in place at the upper and lower ends of said fixture.

2. In a lavatory, the combination of a bowl, of an integral fixture provided with a longitudinally extending passage way and transversely extending passage ways surrounding the longitudinally extending passage way, the transversely extending passage ways having communication with the water supply, the lower end of the longitudinally extending passage way having communication with the waste water supply, a spout extending through the bowl and connected to the said integral fixture for holding the upper end of the same and means taken through the waste water pipe for holding the lower end of the fixture.

3. In a lavatory apparatus, a combination with a bowl, of an integral fixture provided with a longitudinally extending passage way and transversely extending passage ways, means for detachably connecting the lower end of the longitudinally extending passage ways with the bowl and means for detachably connecting the transversely extending passage ways with the upper end of the bowl.

4. In a lavatory apparatus, a combination with a bowl of an integral fixture comprising a longitudinally extending passage way and a transverse passage way surrounding the longitudinal passage way, means extending through the bowl for securing the lower end of the longitudinal passage way thereto, and a spout extending through the upper end of the bowl and detachably secured to the transverse passage way for the purpose specified.

5. In a lavatory apparatus, the combination with a bowl, of an integral fixture detachably secured thereto, said fixture comprising a longitudinally extending passage way, and a transversely extending passage way, the medial portion of the transverse passage way extending around the longitudinally extending passage way, inlet pipes leading to one end of the transversely extending passage way, and a spout detachably connected to the opposite end of the transversely extending passage way for the purpose specified.

In testimony whereof I have signed my name in presence of two subscribing witnesses.

WILLIAM SYDNEY GRAHAM.

Witnesses:
RUDOLPH WM. LOTZ,
A. FRANK PHILIPLAW.