

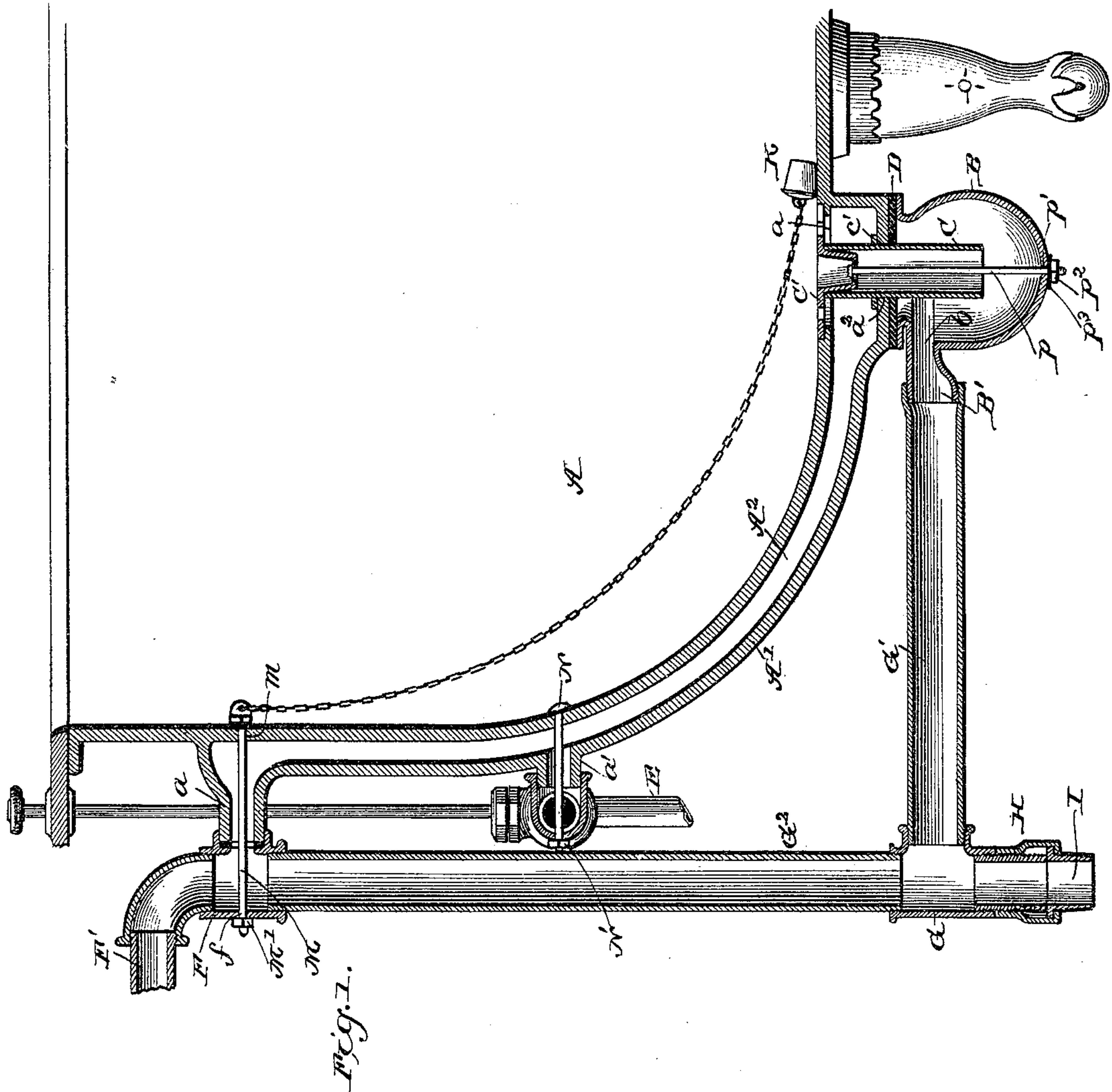
(No Model.)

2 Sheets—Sheet 1.

F. A. WELLS.
COMBINED SUPPLY, OVERFLOW, AND WASTE FITTING FOR SLOP SINKS,
BASINS, AND BATHS.

No. 405,933.

Patented June 25, 1889.



WITNESSES

Edwin L. Yewell.

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INVENTOR

Frank A. Wells
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His Attorneys

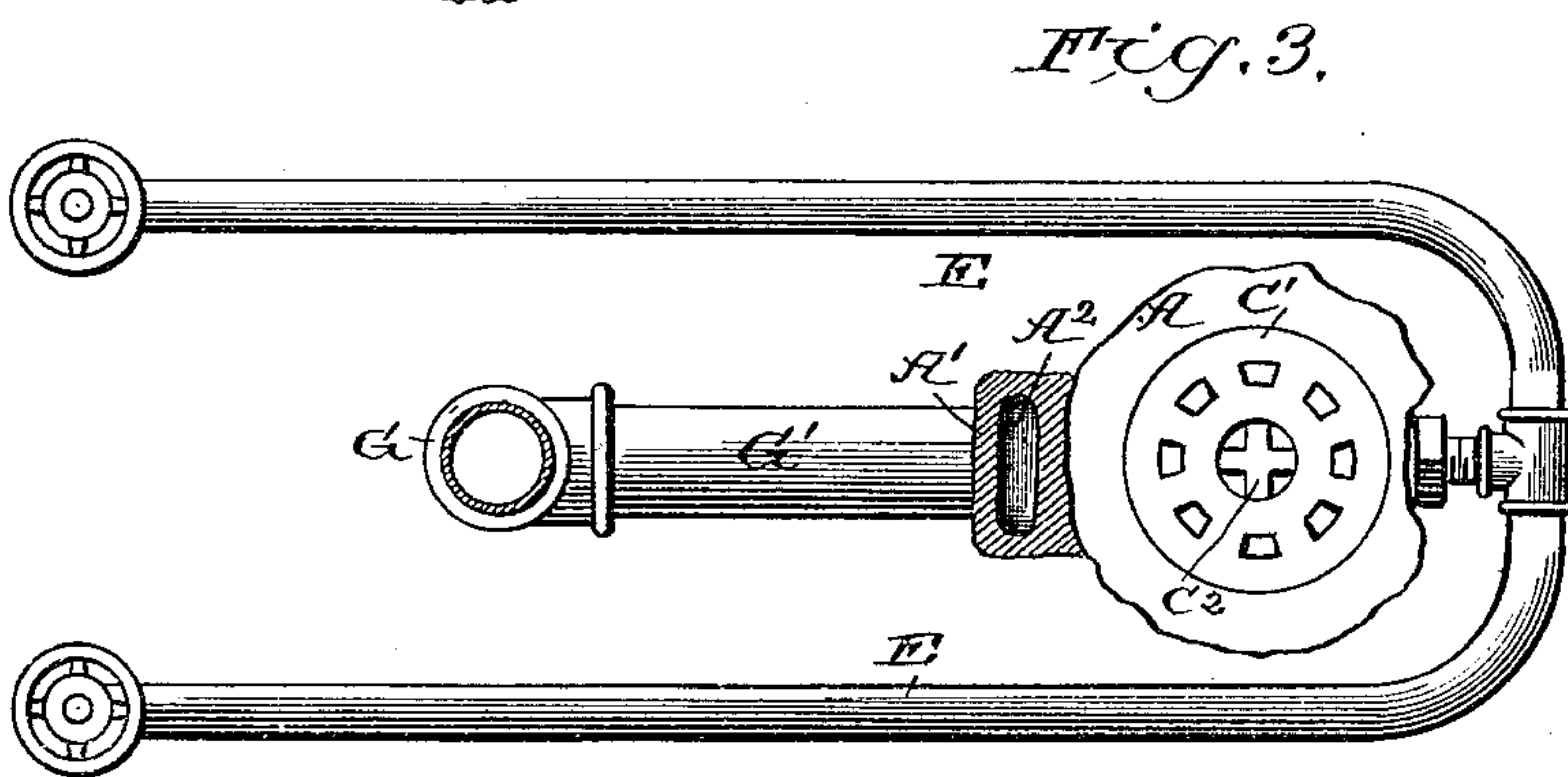
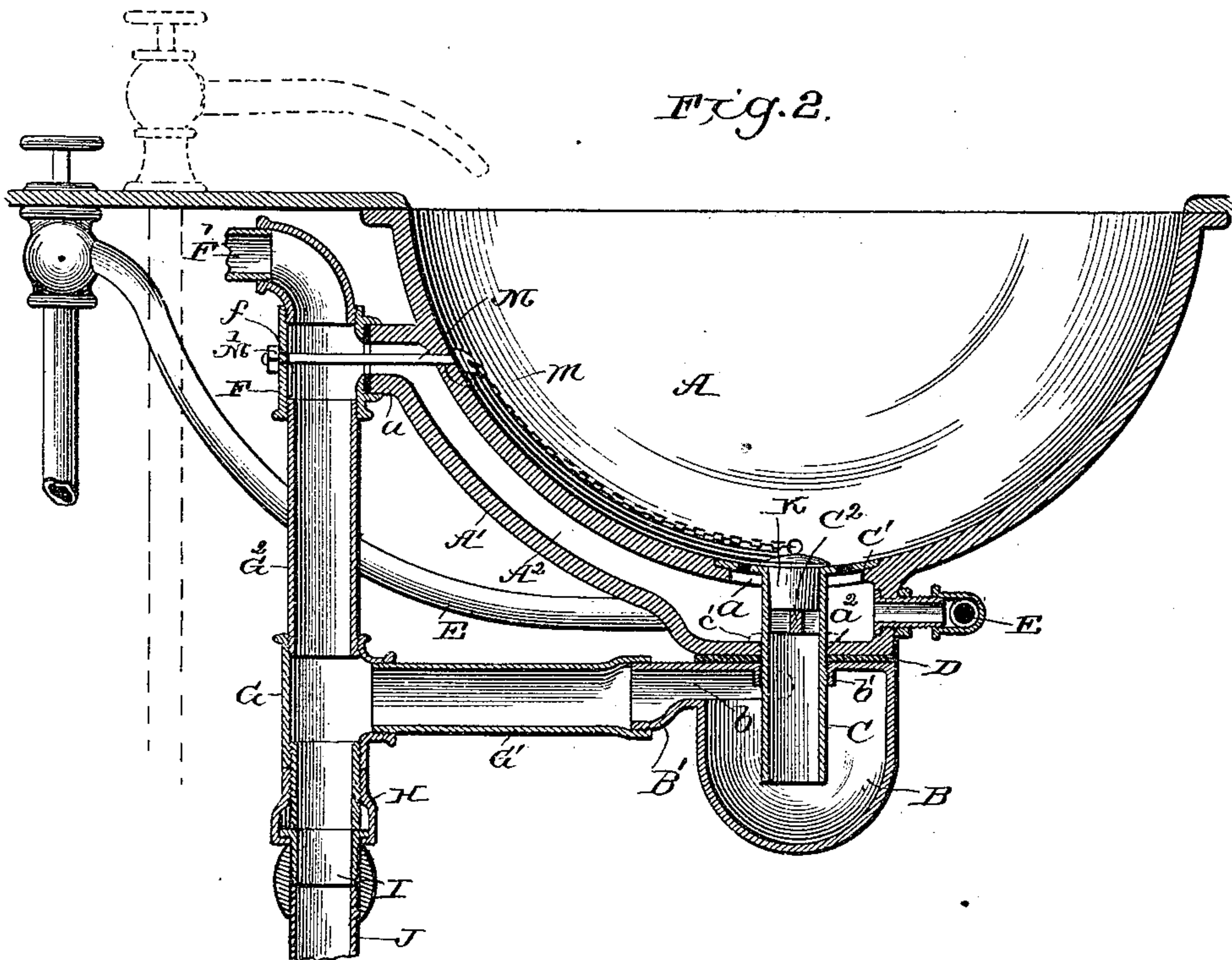
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UNITED STATES PATENT OFFICE.

FRANK. A. WELLS, OF ALLEGHENY, PENNSYLVANIA.

COMBINED SUPPLY, OVERFLOW, AND WASTE FITTINGS FOR SLOP-SINKS, BASINS, AND BATHS.

SPECIFICATION forming part of Letters Patent No. 405,933, dated June 25, 1889.

Application filed January 20, 1888. Serial No. 261,432. (No model.)

To all whom it may concern:

Be it known that I, FRANK. A. WELLS, a citizen of the United States, residing at Allegheny, in the county of Allegheny and State of Pennsylvania, have invented certain new and useful Improvements in Combined Supply, Overflow, and Waste Fittings for Slop-Sinks, Basins, and Baths, which are fully set forth in the following specification, reference being had to the accompanying drawings, forming part thereof.

Figure 1 is a vertical section through a portion of a bath-tub containing my improved fitting. Fig. 2 is a similar section through a hand-basin. Fig. 3 is a plan of the fitting, the upper portion of the water-receptacle being broken away.

The purpose of this invention is to provide a cheap construction for a combined supply, overflow, and waste fitting of the same general character and action as I have shown in my pending applications, Serial No. 254,272, filed November 4, 1887, and Serial No. 255,457, filed November 18, 1887. The saving in cost as compared with the structures shown in these applications is effected by making the overflow-duct integral with the body of the fixture in a manner similar to the common form which is known as "patent overflow," with this difference, however, that the overflow-duct receives the water at the lower end around the outlet from the basin and discharges it at the upper end, this being the reverse of the arrangement in the patent overflow.

In the drawings, A is the shell of the basin, sink, or tub.

A' is the outer shell of the integral overflow-duct which terminates in the nipple *a*, the overflow-passageway being the space A² between said shells and leading to the overflow discharge-orifice through the nipple *a*.

B is a cup which I prefer to make of metal, having a lateral eduction-orifice *b*, commencing interiorly in oval form, with its shorter diameter vertical, in order to save height in the fitting, and thence merging into a circular orifice through the nipple B'.

C is a thimble or tubular plug or hollow bolt exteriorly threaded over the middle portion of its length, and having at the upper

end a flange C', which is perforated and forms the strainer.

D is a packing-washer.

E is the supply-pipe.

F is a T connected at the nipple *a* into the overflow-duct A² from the basin and tub having its cross vertical.

G is a T with its cross vertical, which is connected by the short tube G' and by the tube G², respectively, with the nipple B' and with the lower end of the cross of the T F.

H is a union nut, by means of which a tail-piece I is joined to the lower end of the T G.

These parts are assembled in the following manner: The hollow bolt or plug C is inserted down through the waste-aperture *a* of the basin and through the aperture *a*², which in the ordinary patent overflow is the waste-discharge aperture of the overflow-duct as well as of the basin. The packing-washer D is passed up onto the protruding lower portion of the plug C, and the said plug is then screwed into the threaded aperture *b*' in the upper end of the cup B, and after the other parts are in place, as will be described, the plug is screwed down until the flange C' binds down close upon the bottom of the basin or tub and draws the cup B firmly up against the under surface of the washer D, which itself binds against the under surface of the shell of the overflow-duct, whereby a water-tight junction is effected, and the plug C constitutes a sealed passage from the basin or tub across through the overflow-duct into the cup B, said thimble or plug terminating within the cup B at a point sufficiently lower than the eduction-orifice *b* to constitute of said cup a trap of sufficient depth to afford protection against sewer-gas. Before this plug is thus screwed tight, however, the short tube G' is screwed into the nipple B' and the T G has its short branch screwed to the other end of the tube G', its long branch being left vertical. The tube G² is then connected to the upper end of the T G and the lower end of the elbow F, said junctions being provided, respectively, with the right and left threads. The plug C and the pipe-connection G² will now be tightened up simultaneously and the overflow-connection

will be complete. The outer shell A' of the integral overflow-duct is formed with an induction-orifice through a nipple a' , and the supply-pipe E is connected into the overflow-duct at said nipple, which is located, preferably, a little above the bottom of the basin or tub. From the upper end of the cross of the T F a suitable pipe F' leads to a ventilating-flue, and serves both to carry off foul gas and to prevent siphoning the water from the trap in the cup B.

As the cheapest, most convenient, and reliable method of connecting the fitting F and the supply-pipe E into the integral overflow-duct, I provide holes m and n through the shell of the basin or tub A, and a hole f through the cross of the T F, in line with its short branch or stem, and I make the end of said stem to fit about the end of the nipple and provided with a suitable interior shoulder to form the stop for the nipple, which is inserted within the said short branch of the T, packing or cement being employed, if necessary, to render the junction between the T and the nipple water-tight, and like suitable means being employed at the holes m and f to make them tight. The bolt M is inserted through the hole m and through the short branch of the T F and out through the hole f , and a nut M', being applied and tightened on its outer end, clamps the T securely to the basin. In a similar manner, by means of the bolt N and nut N', the supply-pipe E may be secured in place.

I find it convenient to utilize the strainer C' as the flange by means of whose resistance the thread on the lower part of the plug C is enabled to bind the cup B to the basin; but it is not necessarily so utilized, and instead of that method a shoulder or flange C' may be provided on the plug C in position to bind upon the upper surface of the shell A' of the overflow-duct, thereby binding the cup B directly to said shell.

The operation of this structure is substantially as in my other applications and patent above mentioned—namely: When the stopper K is withdrawn from the upper end of the plug C, the water from the basin or bowl passes out through said plug into the trap formed by the cup B, and thence by way of the tube G' into the waste-pipe J, connected to the tail-piece I. The supply having been admitted through E causes the overflow-duct A² to be filled with pure water, and the height of such column, being of that of the water in the bowl and falling with that water, will have been forced up through the strainer—the flange C'—and will have cleared said strainer of any impurities which otherwise might have lodged upon it, washing them over through the plug C into the waste-pipe. When the supply is admitted, it will fill the tube, entering through the strainer C' at the bottom, any excess passing out through the T F directly into the sewer.

It will be seen that with the exception of the

parts B and C all the other parts are regular fittings, of small cost, and these two parts B and C are themselves simple and of cheap construction, so that the entire apparatus can be cheaply applied to a basin constructed as cheaply as and very similarly to those having the integral overflow-duct described.

A modification in respect to the means of fastening the cup B to the lower side of the overflow-duct is shown in Fig. 1. The bridge C², which spans the waste-passage in the plug C below the seat of the stopper, as is usual, for the purpose of preventing the passage of small solid articles into the waste-pipe, has a central aperture, through which the bolt p is inserted, being stopped by its head above said bridge, the other end passing out through a hole p' in the bottom of the cup B, and receiving on the protruding end, which is threaded for that purpose, a binding-nut p^2 . For cheapness in construction I prefer in this case to make the strainer C' by striking it up out of sheet metal in a separate piece from the plug C, the upper end of which in that case encircles the depressed portion, which forms the seat for the stopper K, and the plug C has then the flange c' in position to bear and bind upon the upper surface of the lower wall A' of the overflow-duct. Cement or a packing-gasket p^3 prevents leakage around the bolt p , and by means of the nut p^2 the cup B is bound firmly up against the bottom of the overflow-duct, and at the same time the strainer C' is kept in place.

This fitting is equally adapted and suitable without variation, except as to proportions, for any form of water-receptacle, whether hand-basin, slop-sink, foot-bath, or plunge-bath, and by the term "basin," as employed in the general description of the structure and in my claim, I desire to be understood as including the water-receptacle of any such fixture.

I claim—

In combination with the basin having an overflow-duct formed integrally with it and communicating with the outlet of the basin, a cup having an induction-orifice communicating with the waste-pipe, and a tubular plug which opens at its upper end in the basin and at its lower end in the cup, and which penetrates the top of the cup and the bottom of the overflow-duct and forms a sealed passage through such duct from the basin into the cup, the supply-pipe connected into the integral overflow-duct, the T F connected to the upper end of said duct, the tubular parts G' and G² connected, respectively, with the T F and the nipple B' of the cup B, and the T G, connecting said tubes G' and G², and having its third mouth leading to the waste-pipe, substantially as set forth.

FRANK. A. WELLS.

Witnesses:

CHAS. S. BURTON,
CHAS. COOPER.