(No Model.)

F. A. WELLS.

BATH TUB OR SINK.

No. 372,347. Patented Nov. 1, 1887.

Fig. 1.

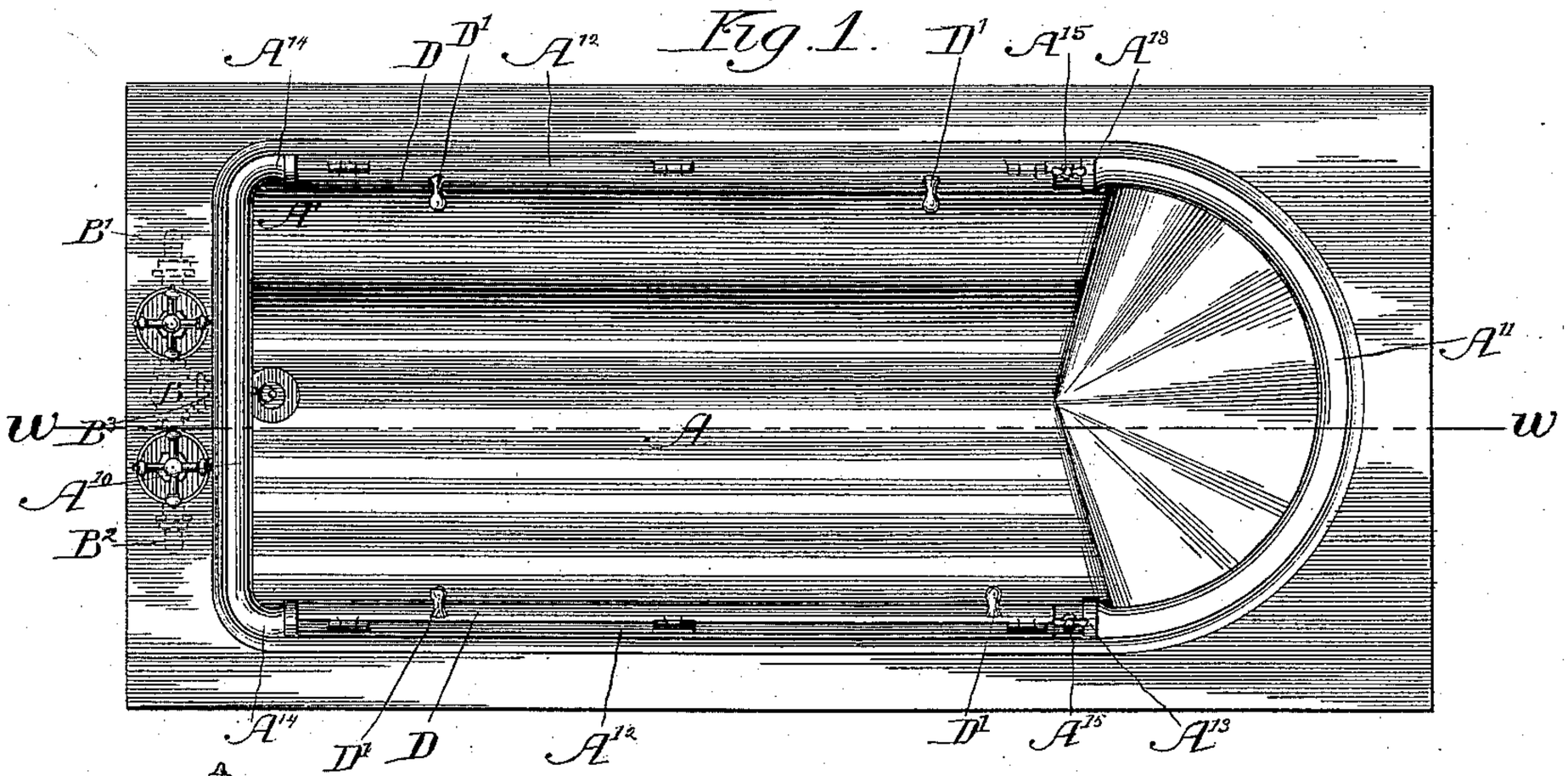


Fig. 2.

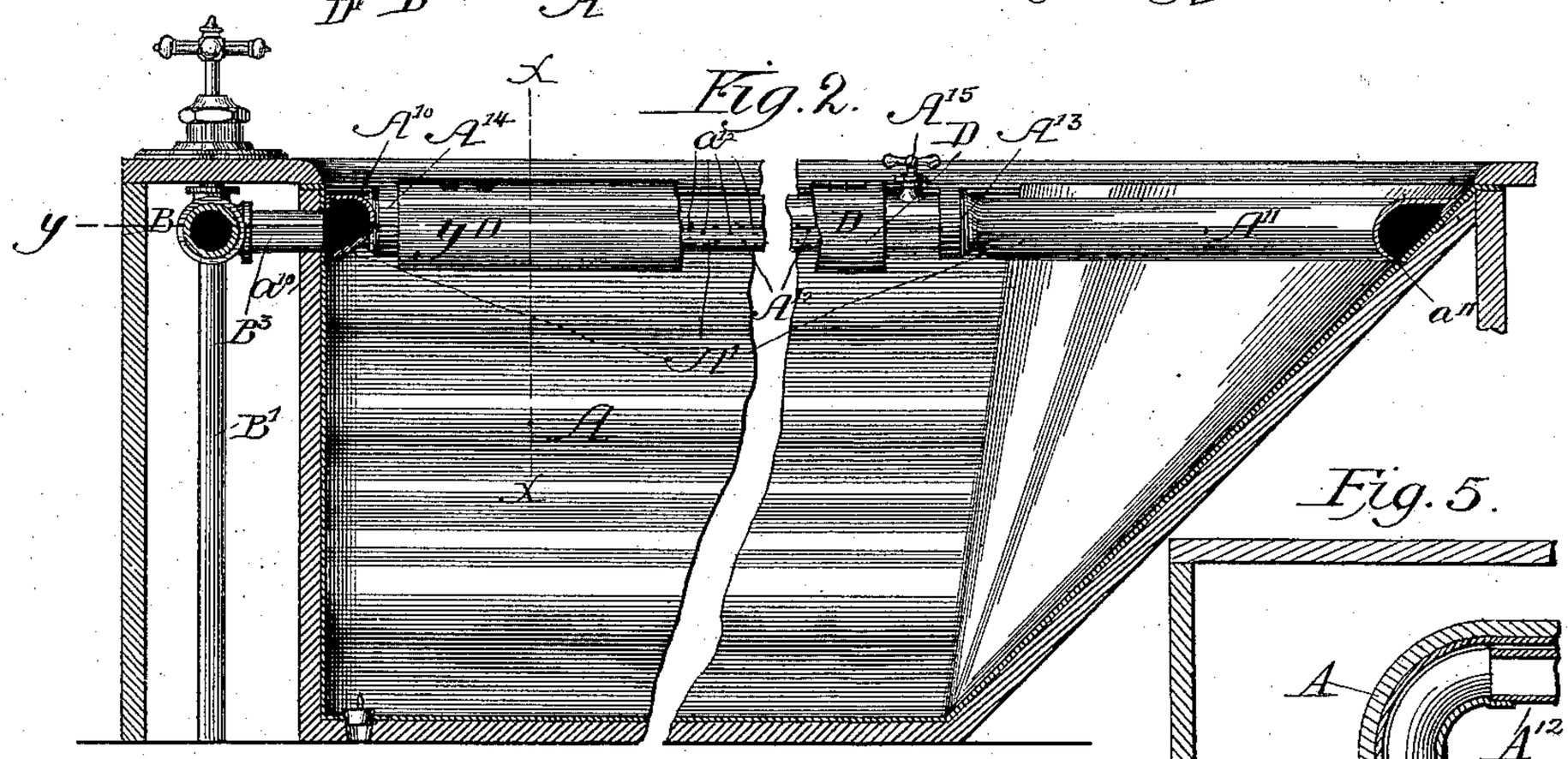


Fig. 5.

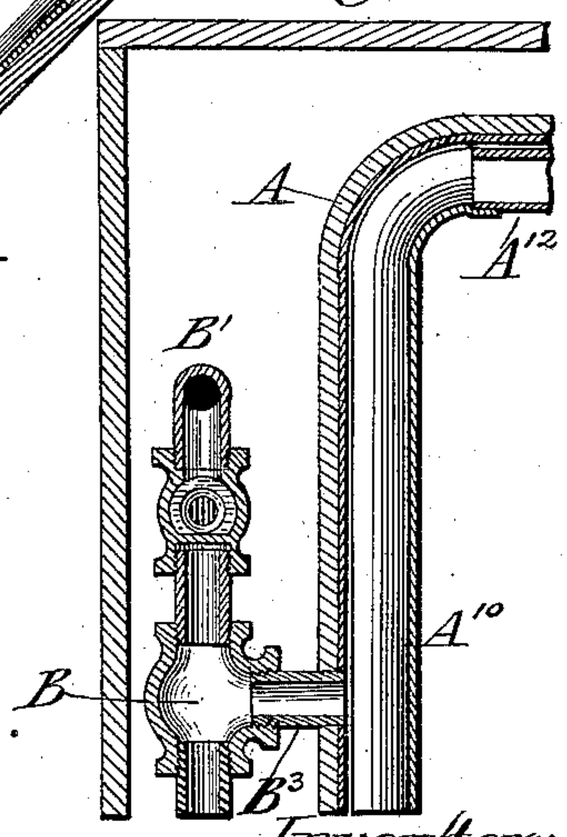


Fig. 3.

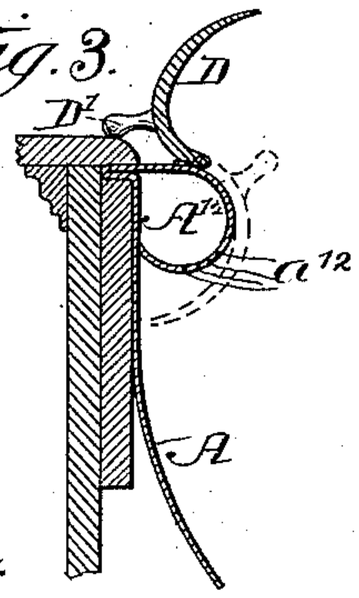
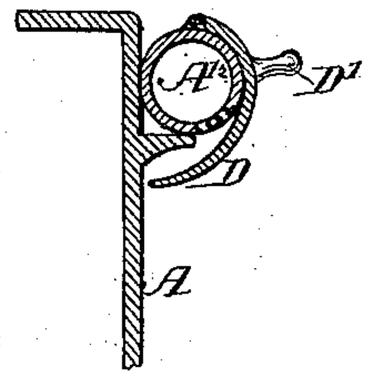


Fig. 4.



Witnesses:
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UNITED STATES PATENT OFFICE.

FRANK A. WELLS, OF ALLEGHENY, PENNSYLVANIA.

BATH-TUB OR SINK.

SPECIFICATION forming part of Letters Patent No. 372,347, dated November 1, 1887.

Application filed November 16, 1886. Serial No. 219,006. (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 City, in the county of Allegheny and State of Pennsylvania, have invented certain new and useful Improvements in Bath-Tubs or Sinks, which are fully set forth in the following specification, reference being had to the accompanying drawings, forming a part thereof.

The first purpose of this invention is to provide improved means for supplying water to bath-tubs or sinks, to attain the following result: First, a noiseless supply; second, uniform heating or cooling of the surface of the tub by the water discharged into it, so preventing the cracking or "crazing" of the enamel; third, facility for thoroughly rinsing off the sides of the tub by the water discharged into it, so avoiding the more laborious process of hand-cleaning, which, in the absence of any convenience for performing it, is commonly deferred until the soap and dirt have hardened on the tub and have thereby been rendered difficult of removal, and, fourth, more complete mingling of the hot and cold streams before they are discharged into the tub, thereby diminishing the vaporization which results when hot and cold water come into contact in the open tub, and so diminishing the damage to wood-work and ornamentation upon the walls and ceiling, which such excessive vaporization causes.

The second purpose of this invention is to furnish a shower for rinsing vessels in a sink, or when applied to a bath tub, to be received by the bather, seated or prostrate in the tub, avoiding the shock caused by overhead showers, as well as the inconvenience of that mode of application, owing to the tendency of the water so applied to scatter, making necessary a special inclosure about some portion of the tub to prevent wetting the entire room.

These purposes are accomplished by the devices hereinafter described, and illustrated in the drawings, wherein—

Figure 1 is a plan. Fig. 2 is a longitudinal vertical section of a bath-tub having my improvement, taken at W W, Fig. 1. Fig. 3 is a transverse vertical section through X X, Fig. 1, but showing the flushing-rim shield or hood in different positions. Fig. 4 is a similar transverse vertical section showing a modified form, wherein the flushing-rim is integral with the tub. Fig. 5 is a horizontal section through the flushing-rim, as at Y Y, Fig. 2, showing the junction of the several parts and the connection of the three-way cock that supplies hot and cold water to the rim.

A is the tub. B is a three-way cock, admitting two streams—hot and cold—by the passages B′ and B^2, and discharging them as one by the passage B^3 into the flushing-rim A′. The flushing-rim comprises the foot section A^{10} and curved head section A^{11} and the similar lateral sections, A^{12} A^{12}. The head and foot sections consist of an introverted flange or lip, formed or secured on the body of the tub and carried first away from the wall and then back toward it and terminating near to it, leaving only narrow rifts a^{10} and a^{11}, respectively, through which the water may escape in a thin sheet against the surface of the tub. The lateral sections may also be formed integral with the tub when the latter is made of sheet metal. Such form is shown in Fig. 3. In that case the same lip or flange which forms the head section is continued around the sides, being, however, bent in toward the surface of the tub until the edge of the lip touches said surface, and it may be preferably soldered thereto.

When the tub is made of earthenware, or cast and enameled, the lateral section may be made of metal pipe, which I then connect by tight joints A^{13} A^{13}, with the ends of the head section A^{10}, and by suitable angles, A^{14} A^{14}, with the foot section A^{11}. In whichever form the lateral sections A^{12} A^{12} are made and joined to the tub and to the head and foot sections, they are perforated, as illustrated, on the side toward the center and bottom of the tub, the perforations a^{12} being radial in such directions as to throw spray over an area commencing about half-way up on the opposite side of the tub and extending down and over the bottom nearly or quite to the other side, thus giving a double shower over the whole lateral extent of the tub, but not extending so far toward the head as to throw into the face or onto the head of the bather.

The entire area of the apertures of the flushing-rim, through which water may be dis-

charged, including the perforations in the sections A^{12}, and the discharge-rifts a^{10} and a^{11}, at the head and foot, should preferably not so much exceed the area of the supply-aperture through the cock B that the supply-pressure will be in sufficient force to throw a satisfactorily forcible spray through the perforations a^{12}; but in cases where the supply-pressure is weak and variable, there may be provided at the head end of the lateral sections A^{12} the cut-off valves A^{15} A^{15}, which, being closed, will limit the discharge to the foot and lateral sections, and so increase the pressure on the shower.

For the ordinary use of the bath when no shower is desired, and particularly in filling it, to avoid noise, the shower-sections A^{12} A^{12} will be hooded by means of the hoods or shields D, which are made to extend the entire length of the lateral sections A^{12}. Each hood is pivoted on the upper side of one of the said sections A^{12}, and, in operative position, as seen in Fig. 3, it extends from said pivotal line in a curve diverging from the surface of the perforated shower-section, and down, around, and under the same, curving in toward the wall of the tub, and preferably terminating at a very short distance from said wall in a downward curved lip, *d*. It may be provided with a handle or handles, D' D', and when the bather desires to use the shower he will tip the hood D back into the position shown in Fig. 1 and in dotted lines in Fig. 2.

In operative position the hood gathers the shower into a solid sheet and discharges it against the wall of the tub in a manner precisely similar to the head and foot sections A^{10} and A^{11}. By the use of this supply-rim the water enters the tub almost noiselessly, and, by coming into contact with the entire surface of the tub from top to bottom, gives it a uniform temperature throughout, which prevents the damage to the enamel which results when the tub is filled in the customary manner by a stream discharged through a cock, whereby the water fills up the tub from the bottom and only comes into contact with the sides as it rises. In such case the expansion of the bottom and lower portion of the sides, being greater or occurring sooner than at the upper part of the sides, tends to cause the enamel to crack at the water-line or over the middle portion of the sides at the level to which the tub is most frequently filled.

When the bather has finished his use of the tub, and while allowing it to empty, the water, being admitted through the rim onto the sides, will rinse them down thoroughly and without any special attention being given to the matter, so that the tub may be left in as cleanly a condition as when entered.

In a sink the uses of the device are essentially the same as in a bath-tub, the sink itself being flushed by turning down the hood and directing the water against the sides, and the shower being thrown onto articles which are being washed by lifting the hood.

I claim—

1. In combination with a bath-tub or sink, a supply pipe or duct extending around the upper edge and perforated on the side toward the bath-space to cause it to throw a shower into the tub, and a hood or shield located outside such perforated pipe in the path of the shower and terminating in a lip standing near the wall of the tub and removable out of the path of the shower at will, substantially as set forth.

2. In combination with the tub or sink and the horizontal perforated supply-pipe, the hood pivoted above the supply-pipe and pendent from such pivot into the path of the shower from the perforated pipe and removable out of the path of the shower by swinging on such pivot, substantially as set forth.

3. In combination with the bath tub having head and foot flanges A^{10} and A^{11}, formed integrally therewith, perforated pipes forming the lateral sections of the supply-rim joined to the said head and foot flanges, substantially as set forth.

4. In combination with the bath-tub having the supply-rim composed of the non-perforated head and foot sections A^{10} and A^{11} and the perforated lateral section A^{12}, the cut-off valves A^{15}, substantially as and for the purpose set forth.

In testimony whereof I have hereunto set my hand, in the presence of two witnesses, at Chicago, Illinois, this 15th day of October, A. D. 1886.

FRANK A. WELLS.

Witnesses:
CHAS. S. BURTON,
G. G. JACKSON.