No. 806,275. PATENTED DEC. 5, 1905.

A. M. MORRISON.

TRAP FOR BATH TUBS OR THE LIKE.

APPLICATION FILED JUNE 9, 1905.

Fig. 1

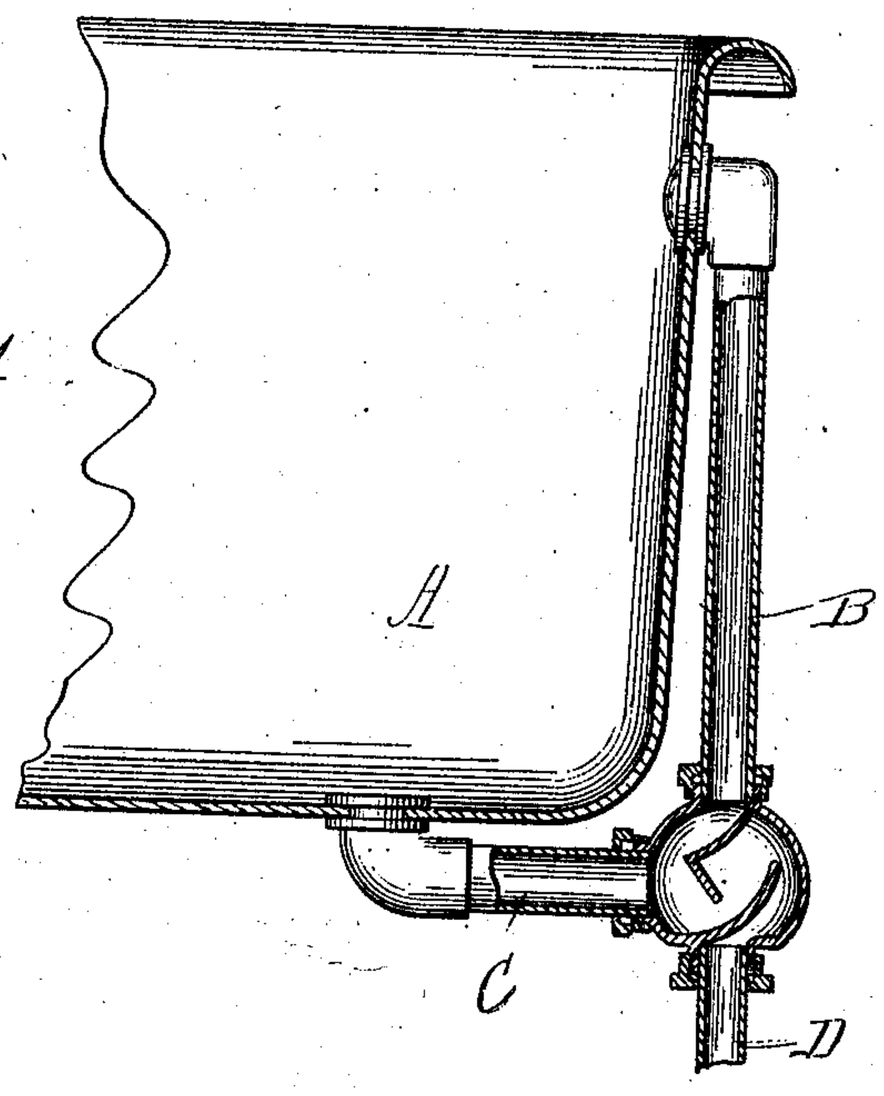
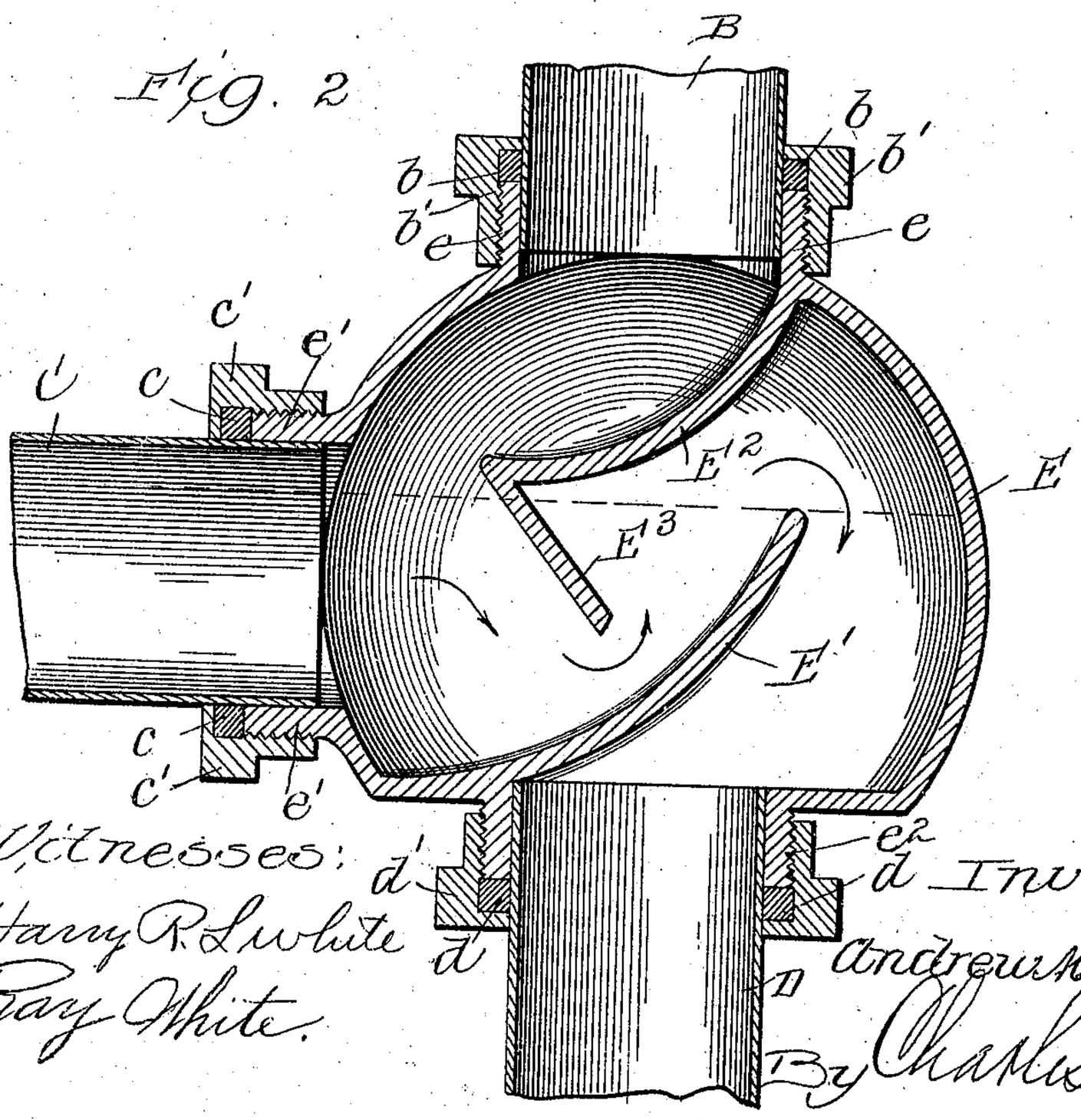


Fig. 2



Witnesses:
Harry R. Lewhite
Ray White.

Inventor
Andrew M. Morrison
By Charles A. Hess
Atty

UNITED STATES PATENT OFFICE.

ANDREW M. MORRISON, OF DUBUQUE, IOWA.

TRAP FOR BATH-TUBS OR THE LIKE.

No. 806,275. Specification of Letters Patent. Patented Dec. 5, 1905.

Application filed June 9, 1905. Serial No. 264,405.

To all whom it may concern:

Be it known that I, ANDREW M. MORRISON, a citizen of the United States, and a resident of Dubuque, Dubuque county, Iowa, have invented certain new and useful Improvements in Traps for Bath-Tubs or the Like; and I do hereby declare that the following is a full, clear, and exact description of the same, reference being had to the accompanying drawings, and to the letters of reference marked thereon, which form a part of this specification.

This invention relates to traps for bath-tubs or other fixtures, in which a tub-waste and an overflow pipe are connected by means of a trap in a waste-pipe leading to the sewer or soil pipes. Heretofore drum-traps have ordinarily been used for this purpose and being placed below the floor are not readily accessible, or if, as sometimes occurs, a trap affords a connection between the overflow and tub-waste above the floor such traps as usually constructed act to retard the flow when emptying the tub, usually directing the force of the outflowing current against a partition or wall in the trap which inclined toward the overflow, thus, in fact, tending to force the water upwardly therein because of the conflicting currents, thus producing considerable noise and actually retarding the emptying of the tub.

The object of this invention is to afford a trap adapted to be easily and quickly connected with the overflow, tub-waste, and waste to the sewer-pipe and adapted to enable the drum-trap ordinarily used to be dispensed with.

It is also an object of the invention to afford a construction in which the discharge is directed toward the waste-outlet with the least possible obstruction and consequent resistance against the flow, or, in other words, in the line of least resistance to such flow, thus obviating all unnecessary noise and enabling the tub or fixture to be emptied in the least possible time, though affording a perfect water seal.

The invention consists in the matters hereinafter described, and more fully pointed out in the appended claims.

In the drawings, Figure 1 is a fragmentary vertical longitudinal section of a tub connected with a trap embodying my invention. Fig. 2 is an enlarged vertical section of the trap and connections.

As shown in said drawings, A indicates the tub or other fixture.

B indicates the overflow-pipe, C the tub-outlet pipe, and D indicates the trap-outlet pipe to the waste or soil pipe. Connecting said pipes is the trap, comprising, as shown, an internally-cored casting affording an outer shell E and having arranged thereon externally-threaded bosses e, e', and e^2, arranged at the top, one side, and the bottom, and are apertured to receive the aforesaid pipes, respectively, therein. Said pipes are connected with the trap by slip-joints, and a gasket b, c, and d, of rubber or other suitable material, is fitted closely to each pipe and bears against the respective bosses, and inwardly-flanged compression-nuts b', d', and c' engage over said gaskets and are threaded on said bosses, thus affording tight joints between the pipes and trap. The bottom of said casing E is somewhat flattened, as shown, though not necessarily, and within the trap and extending obliquely upwardly and rearwardly from between the tub-outlet-pipe opening and waste-outlet is the partition E′. The top of said partition extends to the level of the top of the inner end of the tub-waste pipe. From the top of the casing E, from the opposite side of the overflow-orifice from the tub-waste pipe, is a downwardly and forwardly curving partition E^2, between which and the partition E′ is a relatively large discharge-passage. The lower edge of said partition E^2 extends approximately to the level of the top of the tub-outlet pipe C and slightly above the upper edge of the partition E′. From the lower edge of the partition E^2 a partition or deflector E^3 integral therewith extends rearwardly and downwardly toward the partition E′ and to a point considerably below the top of the same and acts to direct the outflow of water from the pipe C between the partitions E′ and E^2 directly to the trap-outlet.

The operation is as follows: Inasmuch as the trap is connected with the various pipes by slip-joints, it is capable of ready and quick adjustment without the necessity of cutting or threading the pipe ends and when in place, as shown in Figs. 1 and 2, the discharge or inner end of the pipe C is directed straight between the partitions E′ and E^2, thereby enabling the flow from the tub to pass through the trap without interruption by confliction with counter-currents. This is facilitated also by the deflector E^3, which, secured on

the inner edge of the partition E^2 and extending inwardly and rearwardly, serves to converge the flow through the relatively broad passage between said partitions. Said deflector, however, extends sufficiently below the top of the partition E′ to afford a perfect water seal, and when the flow is broken the trap always remains filled to approximately the dotted line shown in Fig. 2. Owing to the slight resistance afforded to the outward flow of water through the trap and the action of said deflector E^3 in converging the flow, there is no tendency for the water to rise in the overflow-pipe.

While I have described my invention as a "bath-tub trap," it may obviously be adaptable for other purposes. I therefore do not purpose limiting this application for patent otherwise than necessitated by the prior art, as, obviously, details of construction may be varied without departing from the principle of my invention.

I claim as my invention—

1. A trap of the class described comprising a casing, an inlet-pipe opening therein, an outlet-pipe opening therefrom and an overflow-pipe connected in said trap, upwardly and rearwardly and downwardly and forwardly directed curved partitions in the trap separating the inlet and the overflow pipe and a deflector on the lower edge of the downwardly-directed partition acting to direct the inflowing water toward the outlet.

2. A trap comprising a casing having an outlet-opening and two inlet-openings, two curved partitions in the casing, one integral with the top and sides, the other integral with the bottom and sides of the casing and separating the inlet-openings from the outlet, one of said inlet-openings being arranged directly opposite the opening between the two partitions, and a deflector acting to direct the flow therebetween.

3. A bath-tub trap comprising a casing having an inlet-opening for the tub-waste overflow, and inlet for the tub at an angle therewith, an outlet to the waste-pipe, a curved partition extending obliquely upwardly and rearwardly from between the tub-waste and the trap-outlet to near the top of the tub-waste pipe, a corresponding curved partition extending from the opposite side of the tub-overflow pipe downwardly and forwardly to near the top of the tub-waste pipe, a deflector on the inner lower edge to the same directed rearwardly and downwardly toward the first-named partition and acting to converge the flow from the tub directly between said partitions.

4. A trap comprising a rounded casing containing curved partitions extending obliquely and approximately parallel with each other from opposite sides and the top and bottom of the casing, a deflector on one of the partitions directed obliquely toward the other, one of the inlet-pipe openings in said trap being arranged to discharge directly into the opening between said deflector and said partition.

5. A trap having approximately parallel partitions one extending from the bottom obliquely rearwardly and upwardly to near the top of the inlet waste-pipe, the other extending from the top obliquely forwardly and downwardly to a point approximately on a level with the top of the upwardly-directed partition, a deflector on the inner edge of said forwardly-directed partition directed downwardly and obliquely rearwardly toward the first-named partition, the inlet waste-pipe opening directly toward the opening between the partitions and a discharge-pipe behind the first partition, all of said pipes being connected in said trap by means affording slip-joints.

In testimony whereof I have hereunto subscribed my name in the presence of two subscribing witnesses.

ANDREW M. MORRISON.

Witnesses:

AUG TJENDÉN,

RICHARD A. ENGLER.