

SCARBOROUGH et al. v. NEFF et al.

(Circuit Court, N. D. Illinois. December 16, 1895.)

1. PATENTS—INFRINGEMENT—WASTE-PIPE TRAPS.

In a patent for a waste-pipe trap, a claim which includes as part of the combination an "air-chamber communicating with the upper and lower bends" of the trap (for the purpose of preventing the water in the trap from being siphoned out), is not infringed by a trap having in it no space which, in the ordinary operation of flushing, contains any air, and which, even if it did contain air, has no communication with the upper bend of the trap.

2. SAME.

The Scarborough and Bates patent, No. 217,243, for improvements in waste-pipe traps, construed, and *held* not infringed.

This was a suit in equity for alleged infringement of letters patent No. 217,243, issued July 8, 1879, to William W. Scarborough and William S. Bates, for improvements in waste-pipe traps.

W. S. Bates and C. E. Pickard, for complainants.

Hubert Howson, for defendants.

SHOWALTER, Circuit Judge. This action is for infringement of the first and third claims of letters patent No. 217,243, for improvements in waste-pipe traps. The first claim is in words following:

(1) The combination, with a waste-pipe trap, of an air-chamber communicating with the lower and upper bends of the trap, substantially as described.

The third claim is in words following:

(3) The combination of the waste-pipe trap, the air-chamber communicating with the upper and lower bends thereof, and the tap or plug, I, located in line with the opening from the lower bend to the air-chamber, substantially as described.

Complainants, the patentees, say in their specification:

Our invention relates to liquid-seal traps for preventing the rising of deleterious gases, etc., through waste-pipes; and its object is to prevent the siphoning of such traps, by which the sealing liquid is drawn out and a free passage left for such gases.

Their first drawing discloses an S-shaped tube or trap—that is to say, an inlet-pipe, A—descending into the lower bend, D, then rising in a curve, H, to the upper bend, E, then descending as the outlet-pipe, B. Above the bend, D, and resting thereon, is a chamber, C, circular in that vertical section which is longitudinal to the trap, with an aperture or opening, G, at the bottom, extending through the upper surface of the said lower bend, D, and another opening at the top, connected by a pipe, F, with an opening through the upper surface of the upper bend, E, of the trap, this last-named connection being on the extreme summit of said upper bend.

The drawing Fig. I shows said tube filled with water, said chamber, C, and its connecting-pipe, F, being at the same time empty; that is, filled with air. The flow of water into the inlet-pipe, A, having ceased, it is said, in substance, in the specification, that the fall of the water out of the upper bend, E, draws the air out of the chamber,

C, through the pipe, F, the water rising at the same time through the aperture, G, into said chamber, C, and that as soon as the siphoning action, which goes on by the pressure of the air down the inlet-pipe, A, ceases, the water in the chamber, C, falls again through the aperture, G, into the lower bend, D, and seals the trap.

In the third paragraph of their specification complainants speak of three devices or methods made use of prior to their invention to prevent or abate the effect of the siphoning action, and of objections to such methods. As to one of such methods they say:

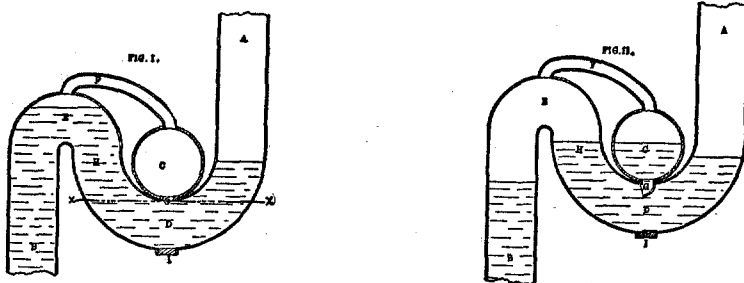
A reservoir was connected with the bottom of the lower and upper bends of a goose-neck, the reservoir being made to contain sufficient water to seal the trap.

They go on to say, speaking of the objections to said enumerated current methods:

By our invention we have overcome all these difficulties by placing an air-chamber between the upper and lower bends of the trap, as will be more fully described hereinafter.

They say further:

In the drawings we have shown our invention as applied to the ordinary S-trap. Figures I and II show the invention at different periods of its action. Fig. II also shows a modified form of connection between the air-chamber and the lower bend of the trap. A is the inlet end of the trap-pipe; D, the lower bend; E, the upper bend; B, the outlet; C, the air-chamber; F, the passage connecting the air-chamber and the upper bend; G, the orifice between the air-chamber and the lower bend; I, the tap or plug for cleansing, located preferably in line with orifice, G.



The operations of flushing and discharging waste matters are ordinarily accompanied by a rush, and this rush is such that in most cases any solid matters discharged will be thrown against the bottom of the lower bend, D, of the trap, and thus clear the orifice, G, so that there will be little or no danger of the orifice being clogged. It is for this reason that we prefer to connect the air-chamber, C, with the top of the lower bend. By this operation of flushing or discharging the waste-pipe is generally filled, so that, when the supply at the inlet end is stopped, a siphoning action sets in. It is this point of the action which is shown in Fig. I. The supply of liquid at the inlet end, A, has ceased, and the trap-pipe is full. The column of liquid in H has a tendency to fall toward D, and the column of liquid in B tends to fall toward the outlet; consequently there is a strong suction at the top of the upper bend, E, and air will be drawn from the air-chamber, C, through the passage, F, the water-level will fall in A, H, and B, and water will be sucked up or rise into C, the degree of fall and rise depending on the proportions of the trap; and when the liquid columns in H and C are

in equilibrium, then the water-level will rise in both H and C and fall in A and B until B is empty, or until the level in A is so low that air will pass through the trap at D from A through D, H, E until the limb, B, is empty; then, of course, the water will fall in H and C and rise in A, and form a perfect seal. It may, in some cases, be desirable to connect the air-chamber with the lower bend at G by a passage having a forward inclination from the chamber, so that any rush of liquid through A, D, H will have a sucking action at G, and thus effectually prevent any entry of material into the chamber through G except as hereinbefore indicated. This same effect may be produced by making the connection by a passage opening in the direction of the discharge, as shown in Fig. II. This should especially be done if the opening from the chamber into the trap-pipe is at one side. We prefer, however, as before stated, to make the opening in the top of the trap-pipe; and we prefer to make the upper connection at E, at or near the extreme summit of the upper bend, as is shown.

It is obvious that under ordinary conditions the water-level in a trap constructed with the device of complainants is a horizontal plane touching the lower internal surface of the upper bend, and crossing the chamber, C, and the inlet-pipe. That portion which is above this plane of the chamber, C, together with the pipe, F, connecting to the upper bend, ordinarily—that is to say, when the trap is full of water without running over—contains a volume of air.

The device complained of is also intended to prevent siphoning, or, rather, to prevent the effect of the siphoning action in completely emptying the trap. This device also has to do with the S-shaped trap; that is to say, with a trap having a lower bend on the inlet side, and an upper bend on the discharge or outlet side. The pipe constituting the trap, as it rises from the lower or initial bend towards the upper or discharge bend, is enlarged on the upper side by defendants, and flattened towards the central vertical longitudinal section thereof. Transversely across this portion of said trap, and rising from near the bottom of the lower bend, is a partition approximately vertical, and so arranged as to divide the flow of water coming in from the inlet-pipe into two streams, one of which, passing under the lower edge of said partition and between said edge and the bottom of the lower bend, and so following the lower side of the trap, finds its way up and eventually out through the discharge-bend, while the other and larger stream, striking said partition above the lower edge thereof, passes up and over the same, being then deflected downward by the upper wall of the trap, which makes a slight re-entering angle or internal projection when it ceases to be the upper wall of the enlargement, and becomes part of the upper bend. These streams interfere and mingle, after passing said partition, in what is spoken of as a "chamber" or "reservoir" formed of said partition and the walls of said trap enlarged, as indicated. In the siphoning action, by reason, probably, of the inequality of the resistance offered by these two streams so divided to the atmospheric pressure down the inlet-pipe due to the partition and their interference in the reservoir after passing the same, air finds its way from the inlet-pipe to the upper bend of the discharge-pipe, or possibly in the contrary direction, in time to stop the siphoning action, while leaving sufficient water in the trap to seal the same. The water rises in this trap with a uniform level. The air is expelled and the enlarged portion of the

trap, as above described, is filled with water before water commences to run out through and over the discharge-bend. It does not appear that when this trap is filled with water without running over there is any cavity containing a volume of air back of the internal projection in the upper wall just referred to; and, if there were, said projection being submerged when the water commences to rise over the upper bend, such air cavity or compartment would have no connection with the upper bend whereby the function described in the patent in suit would be performed.

The word "air-chamber" in the claims in suit includes the entire compartment referred to from its junction with the lower to its junction with the upper bend. The specification and the use of the term "air-chamber" in the claims show that a portion of this compartment must rise, if not entirely above the upper surface of the upper bend, at least above the horizontal plane which touches the lower internal surface of the upper bend at its extreme summit; otherwise, under ordinary conditions, said compartment would be completely filled with water, and a volume of air could not be contained therein. The contrast as emphasized in the specification is between an air-chamber, or a compartment in which is contained a volume of air, and a reservoir, the function of which is to hold water. The word "air-chamber" in the claims answers to this distinction. It may be that the volume of air in the air-chamber has, in fact, no material effect in securing the result ascribed to the invention; but an air-chamber—meaning, in view of the specification, nothing less than a compartment which, when the trap is full without running over, contains a volume of air—is an element not only persistent in each claim, but apparently the express and pronounced feature thereof. 3 Rob. Pat. § 922.

The specification seems of necessity to imply, moreover, that the communication with the lower bend is for the entry and exit of water into and out of the chamber, C, and that the communication with the upper bend is for the free and unobstructed passage of air out of said air-chamber into the highest space of the upper bend. To meet the invention as described in the specification the junction between the air-chamber and the upper bend must be so placed or arranged that water will not flow into the air-chamber from the upper bend, but that air will flow out of the air-chamber into the upper bend as the water-level in the latter is lowered. "An air-chamber communicating with the lower and upper bends of the trap, substantially as described" in complainants' specification would seem to be a compartment or inclosure not integral with, but external and auxiliary to, the trap, and communicating therewith by means of holes cut through the outer surface thereof. Assuming, however, that any particular space in defendants' trap can, by reason of the partition or dam before mentioned, be called with any propriety a "compartment," "inclosure," or "air-chamber," said space does not, under ordinary conditions, or in the operation of flushing or siphoning, contain a volume of air, and is hence not an air-chamber. And, again, if the cavity above the partition in defendants' trap could hold a volume of air when the trap is full, such air cavity would have no

communication with the upper bend substantially as described in complainants' specification. I do not find that the combination of either of the claims in suit is in the structure complained of. The bill is therefore dismissed for want of equity.

MISSOURI LAMP & MANUFACTURING CO. et al. v. STEMPEL.

(Circuit Court, E. D. Missouri, E. D. June 11, 1896.)

No. 3,798.

1. PATENTS—ESTOPPEL BY ASSIGNMENT—CONSTRUCTION OF CLAIMS—PRIOR ART.
A patentee, by his acts and representations made in securing his patent, and his subsequent assignment thereof, is estopped from questioning its novelty or utility, but not from showing the prior state of the art, for the purpose of determining the proper construction of its claims.
2. SAME—PLEADING—PRIOR ART.
The court may consider the prior state of the art for the purpose of determining the proper scope and extent of the patent, even though no reference is made thereto in the answer or notice given, as required by Rev. St. § 4920.
3. SAME—LIMITATION OF CLAIMS—PRIOR ART—FIRE EXTINGUISHERS.
The Stempel patent, No. 489,767, for an improvement in fire extinguishers, is limited by the prior state of the art, and by the amendments required by the patent office, to the distinguishing novel features of a fragile and hermetically sealed stopper, and a break ball deposited within the chemical bottle, which is contained in the tank, and is therefore not infringed by the subsequent patents Nos. 511,469 and 515,846, to the same inventor, in which the break ball is deposited upon the bottom of the tank, and breaks the chemical bottle by falling against its bottom when the tank is inverted.

This was a suit in equity by the Missouri Lamp & Manufacturing Company and Joseph F. Wangler against Omar A. Stempel for alleged infringement of a patent for an improvement in fire extinguishers.

Edward J. O'Brien, for complainants.
James A. Carr, for defendant.

ADAMS, District Judge. This is an action for an alleged infringement of letters patent No. 489,767, for a certain new and useful improvement in fire extinguishers, dated January 10, 1893. The defendant was the inventor, and, prior to the application for the patent, had duly assigned a two-thirds interest in his invention to the complainants, who, with him, were the grantees named in the patent. After issue of the letters patent, the defendant duly assigned his remaining one-third interest to the complainants, who thereupon, and on May 22, 1893, became the owners of the entire patent. Defendant, Stempel, afterwards applied for, and on December 26, 1893, secured, a grant to him of letters patent No. 511,469, for a "new and useful fire extinguisher," and, after that, applied for, and on March 6, 1894, secured, a grant to him of letters patent No. 515,846, for "new and useful improvements in fire extinguishers"; and under these two last-named letters patent, employing some of the features of each,