

**SMEAD WARMING & VENTILATING CO. v. FULLER & WARREN
CO. et al.**

(Circuit Court of Appeals, Second Circuit. August 1, 1893.)

1. PATENTS FOR INVENTIONS—DRY CLOSETS—NOVELTY.

Patent No. 314,884, granted March 31, 1885, to Isaac D. Smead, for a dry closet in which warm air drawn by ventilating pipes from the rooms of a building is used to desiccate fecal matter by passing the air through a vault made in the form of a tube, and so arranged as to receive deposits distributed along its surface in comparatively small quantities at any given place, is not without novelty, in view of patent No. 264,586, granted September 19, 1882, to William S. Ross, for a vault which is placed between a furnace and a smoke flue, and in which fecal deposits are received on a shelf, over and around which products of combustion are made to pass.

2. SAME—ENLARGING CLAIM.

As Smead did not originate the idea of utilizing the warm air which was drawn from a room, or the means by which the air was introduced to the vault, but took the ventilating ducts, the gathering chamber, and the vent shaft of the Ruttan system, and simply improved the vault, he cannot omit the ventilating ducts, and claim that his patent includes any openings or apertures which perform the office of ventilating pipes, and introduce air into the vault.

3. SAME—INFRINGEMENT.

Where a flue is constructed from a urinal to a vault room, in which there is a grate, and the foul air from the urinal is drawn through the flue into the vault, and then out of doors through a chimney, the flue infringes the Smead patent, as it conveys a portion of warm air into the vault, and tends to produce desiccation.

Appeal from the Circuit Court of the United States for the Northern District of New York.

In Equity. Bill by the Smead Warming & Ventilating Company against Fuller & Warren Company and the Fuller & Warren Warming & Ventilating Company for infringement of letters patent No. 314,884, granted March 31, 1885, to Isaac D. Smead, for a dry closet. The bill was dismissed in the court below, and complainant appeals. Reversed.

John W. Munday and Lysander Hill, for complainant.
Esek Cowen, for defendants.

Before LACOMBE and SHIPMAN, Circuit Judges.

SHIPMAN, Circuit Judge. This is an appeal from a decree of the circuit court for the northern district of New York, which dismissed the complainant's bill in equity for an alleged infringement of letters patent of the United States No. 314,884, dated March 31, 1885, to Isaac D. Smead, for a dry closet.

This patent had previously been the subject of examination in the same court in the case of *Smead v. School Dist.*, 44 Fed. Rep. 614. The opinion of Judge Wallace in that case contained the following careful description of the invention:

"The dry closet of the patent is one in which air is used to desiccate fecal deposits, render them innocuous, and remove the foul odors from the building. The treatment of such deposits in buildings where a large number

of persons use the closets is a problem which architects and sanitary engineers have attempted to solve in various ways. Water-closets, with their sewer connections, involve the well-known danger of the generation of disease germs, as well as the expense and annoyance commonly incident to plumbing. Earth closets smother the foul odors, and do not thoroughly dry the deposits, and the absorbing material so soon becomes charged with the odors that the closets become offensive if they are not frequently and carefully cleansed; and it would seem manifest that they could not be practically employed for the use of several hundred persons in a single building. The dry closet, in which the deposits are desiccated by an air current constantly forced into contact with them, is especially adapted for use in buildings where the general system of heating and of ventilation can be utilized to furnish the air current, and convey it out of the building. The present invention is more especially designed for use in such buildings. The invention described in the specification and shown in the drawings consists of a system of foul-air ducts, a gathering room, a deposit vault, and a vent shaft, so constructed and arranged in relation to each other that the air drawn from the various rooms in the building to ventilate them shall be delivered at one end of the vault, and pass horizontally through it to and out of the vent shaft. The foul-air ducts leading from the several apartments may be constructed so that each one will ventilate several rooms, or only a single room. They are connected with the rooms, preferably by a register, and are connected by intermediate ducts with the gathering chamber, so as to concentrate there the entire volume of air drawn from the building. The gathering room is located at one end of and opens into the vault. The vault is a horizontal tube, which serves as an air duct between the gathering room and the vent shaft. It is oblong in form, and is of sufficient length to receive the fecal deposits from a series of closets located side by side above it. The vent shaft, or exit shaft, extends from the base of the vault to and above the roof of the building. It opens into the vault, and is provided with means for creating a strong draught through the vault from the gathering room. The specification states that the location of the closets in the building will be governed by circumstances, and it is immaterial where they are located, so long as the vault is so arranged that the air from the building will be conducted through it, and from thence into the outer atmosphere at such a point that it will not be wafted back into the building through the doors or windows. The specification implies that buildings like those in which the dry closets will be employed are usually heated by a furnace or furnaces; and in that case the means described for securing the necessary draught for the vent shaft are provided by building the furnace flue alongside the vent shaft, and heating the vent shaft by the smoke and gases which escape from the furnace; and when the furnace is not in use a heater of any suitable kind, located within the shaft, is employed; or 'any of the known appliances in use may be availed of to increase the draught,' in case it should be found necessary to do so. The specification contains this summary of the invention: 'From the foregoing description it will be seen that the gist of my invention consists in so arranging the closets in relation to the exhaust ducts and ventilating shaft or shafts as to cause the foul air which is drawn from the rooms to pass through the vault which receives the fecal deposits, and desiccate the same, and at the same time take up and carry off all foul odors. As the air leaves the rooms at a temperature of about 65 degrees, it will readily be seen that it is in a condition to rapidly absorb moisture and produce a drying effect upon any matter with which it may be brought in contact. By this method the fecal matter is quickly desiccated and greatly reduced in volume, so that its removal is easily and quickly accomplished. If desired, a small amount of plaster, dry earth, or other absorbent material, may be from time to time thrown into the vault; but, in practice, I have not found this necessary or advisable, because of the rapidity with which the deposits in the vault were dried up by the passage through it of such a large volume of warm air. By this method I am enabled to avoid all the serious difficulties or objections which have heretofore existed in reference to closets, especially when located within buildings, the

closets themselves being as free from offensive odors as are the ordinary rooms of the building.'

"The claims of the patent are as follows: '(1) The combination and arrangement of one or more ducts for the removal of the foul air from a room or rooms of a building; a vault for receiving and retaining the fecal deposits, connected with said duct or ducts; and a ventilating or exit shaft, connected with said vault, whereby the warm air from within the building is made to desiccate or dry the deposit in the vault, and remove all odors therefrom to the outer air, as set forth. (2) The combination in a building of a series of foul-air ducts, B, a gathering room, C, a vault, D, and a ventilating or exit shaft, E, with means, substantially such as described, for creating a draught through the same, substantially as and for the purposes set forth. (3) A dry closet arranged in relation to the ducts which convey the air from the room or rooms in a building, and the ventilating or exit shaft, substantially as shown and described, whereby the foul and warm air from the room or rooms is made to pass through said dry closet, and thence out through the ventilating shaft, as and for the purposes set forth.'"

In 1862, Henry Ruttan, of Canada, published a valuable book upon the ventilation and warming of buildings, which described a ventilating and heating system which has been extensively and successfully used in public buildings and private residences in this country. He also described in the same book a closet to be used in connection with his ventilating system, which, for the reason hereinafter mentioned, proved unsuccessful, and an attempt which was made to introduce it into private residences was soon abandoned. It had the vent shaft of his ventilating system and a single basin, not a tube or an air duct, in which all the deposits from the various closets were collected, and which was placed in front of an opening into the vent shaft. The air current, whatever it was, reached only the top of the deposits, and did not thoroughly dry them. It might take away odors, but there was no desiccation. Smead, who was connected with the corporation which was introducing to the public the Ruttan ventilating system, thought that an operative dry closet might be made, and, instead of a single basin, inserted a tubular vault between the gathering chamber and the vent shaft. This tube received the deposits distributed in small quantities along its length, and was a conductor for an air current. The deposits, when thus thoroughly under the influence of a continuous and large current of warm air, were thoroughly and rapidly dried, and made odorless. It is indispensable that the air should have been warmed. The introduction of air from the outside of the building is ineffectual. The closet of Smead, thus made successful, is largely used, and is of great benefit in buildings having a large number of occupants. His first claim, although his vault differed radically from Ruttan's basin, was broad enough to include a vault of any description and was therefore, if literally construed, anticipated by Ruttan, and, as the result of the Wellsville Case, was disclaimed. The second claim specifies the actual invention of Smead as described in the specification. The third claim is for the elements of the second claim, except that the ducts are not called a "series," and the gathering chamber is omitted,—an element not essential, and which can be omitted without impairing the beneficial character of the closet.

The defendants in this case rely to a certain extent, as did the defendant in the Wellsville Case, upon a patent to William S. Ross, No. 264,586, dated September 19, 1882. The invention therein described consisted in mounting the ordinary privy box over a metallic frame and a horizontal furnace with a chamber for the deposits. It was, as stated by Judge Wallace, "a furnace for baking or burning fecal deposits by heat." The vault is between the furnace and the smoke flue; the deposits are received upon a shelf within the vault, and the products of combustion pass over and around the shelf. This patent has no relation to the Smead device.

The question of infringement is the important one in this case, and arises upon the construction of two dry closets in a public schoolhouse in Somerville, Mass. They were made by one or both of the defendants in accordance with the plan or system advertised by the Fuller & Warren Company. The first and second stories of the Somerville building were ventilated without any connection with the basement. Two closets, one for the boys and another for the girls, were placed in the basement, which was subdivided by arches and openings into separate rooms, not closed by doors. The two closets were constructed alike, except that the girls' closet did not have the duct which led into the boys' closet from the urinal, and which will be described hereafter. A description of the boys' closet will be sufficient. The deposits in the Fuller & Warren vault are destroyed by cremation. Those in the Smead vault are, after the drying process is completed, removed in baskets. At one end of the vault in the Somerville closet is a vent shaft. At the other end, in the wall which separates the vault room from the janitor's room, is an opening, about 20 inches wide and from 16 to 20 inches high, in which is a grate, used exclusively for drying the air which enters the vault through the opening. The persons in charge of the building are instructed by the printed directions for operating the system to make a fire in the grate once each week, to thoroughly dry the solid and evaporate the liquid matter in the vault. The fire in the grate increases the evaporating power of the air, and dries the fecal matter, so that it may be burned without offensive odor. Such a fire must be used in cold or damp weather, for warm air is a necessity. It is probably true that in warm weather a fire may be dispensed with. A supply of air constantly enters the vault from the opening, is drawn through the vault, serves to ventilate the room in the basement in which is the opening, and this air, when sufficiently warm, dries the deposits. An opening or a slot along the length of the urinal in the room in the basement known as the "boys' play room," when it reaches the end of the urinal slab, is closed circumferentially, and becomes a flue, which curves around the end of the closet, and delivers the air it has accumulated into a little space at the end of the vault in which is the opening. The air in the urinal is drawn through the closet vault to the chimney. This duct or flue was made for the purpose of ventilating the urinal, and successfully accomplishes that object. The holes or apertures are not pipes, as the ducts of the

Smead specification are, but the air in the basement is drawn into them, and this air, when it is sufficiently heated, and passes through the vault, accomplishes the desiccating work which the foul warm air conveyed through the ventilating ducts of the Smead system also accomplishes.

As the construction of the two closets in the Somerville house is not the same, the question of infringement by the girls' closet, in which apertures only are used, will be first considered. The complainant contends that an aperture is a short duct, and that it is of no importance whether the duct of the patent is long or short, and that, if an aperture accomplishes the result of the invention, it is the duct of the patent. This statement evades the question, which is whether the ducts of the claims of the patent must not be construed, in the light of the specification and of the history of the invention, to be ducts which are the pipes of the ventilating system; in other words, whether the combination in the claims is not limited to a combination of ventilating pipes and the other elements. The circuit judge, in considering this question, came to the reluctant conclusion that "the ducts of the patent are something more than an aperture in a wall between one room and another." The court said:

"The whole description shows that the term is used in the common sense of a tube or canal by which a fluid or other substance is conducted or conveyed. The duct of the patent is designed for air in a system of ventilation, to conduct the air taken out for ventilation from a series of rooms or a single room to the entrance of the dry closet, for use there in desiccating or drying the deposits. The patent speaks of the ducts as 'foul-air shafts,' which convey the air from the room, built in the walls or partitions, so as to not occupy the space in the room, or alongside of the walls in the sides or in the corners of the rooms, where they will afford the least obstruction."

This language truthfully expresses the obvious idea which the patentee had of his ducts, which were, in his mind, the pipes which contained, in the language of the specification, "the foul warm air which is taken out of the rooms for ventilation." Although this is true, if the invention had been a broad one, the patentee would be entitled to a broad construction of his patent, and a court would be at liberty to give latitude to the language of the claims. The inventor took the ventilating ducts, the gathering chamber, and the vent shaft of the Ruttan book, discarded the single basin, and lengthened the vault, so that the current of air might have free access to the deposits, and thereby made a good closet, but his invention was not a primary one. He did not originate the idea of utilizing the warm air which was drawn from a room, or the means by which the air is introduced into the vault, and he did not apparently have in his mind, or suggest in the specifications, any other means. The construction to be given to his patent must correspond with the extent of his invention. The actual invention, if in conformity with the language of the claims, should control in the construction of patents. A strict construction should not be resorted to if it becomes a limitation upon the actual invention, unless such construction is required by the claim, it being understood that the

construction should not go beyond and enlarge the limitations of the claim. *Merrill v. Yeomans*, 94 U. S. 568; *Railroad Co. v. Mellon*, 104 U. S. 117. In this case Smead's improvement upon Ruttan was in the vault, and not in any of the other elements, and to permit him to omit the pipes and include any openings, although they perform the office of pipes, by which air is introduced into the vault, would give him a larger invention than he made. *Railway Co. v. Sayles*, 97 U. S. 554. We concur with the circuit court that the patent is not infringed by the use of the girls' closet.

The boys' closet has an additional element in its construction. The flue from the urinal in the play room was conducted into the end of the vault in which the grate was placed for the purpose of ventilating the urinal; the foul air was drawn through the flue into the vault, and out of doors through the chimney, and thereby ventilation was successfully accomplished. The testimony of the defendants' witnesses makes it apparent that this flue is a duct in the exact sense in which the word is used in the patent. It conveys a portion, though probably a small portion, of warm air into the vault, and tends to produce a desiccating result. If no other means was used, this flue would be insufficient, but by its use the defendants have intruded upon the territory covered by the Smead patent, and have infringed its third claim. The patent cannot justly be construed to have reference only to a series of ducts leading from different stories of a building. It is not compulsory that in a building of more than one story the invention should be used in all the stories, or in all the rooms, or in more than one room of a single story. The third claim indicates that the foul-air ducts may convey the air from a single room.

The decree of the circuit court is reversed, with costs, and the cause is remanded to that court, with instructions to enter a decree for injunction against the infringement of the third claim of the patent, and for an accounting and for costs.

FEATHERSTONE v. GEORGE R. BIDWELL CYCLE CO.

(Circuit Court of Appeals, Second Circuit. August 1, 1893.)

1. PATENTS FOR INVENTIONS—REISSUE—VALIDITY—PNEUMATIC TIRES.

The fourth claim of reissued patent No. 11,153, granted March 24, 1891, to John Boyd Dunlop, which covers the combination with the rim of a cycle wheel, and an inflated, expansible tire, of a tubular, nonexpansible confining envelope surrounding said tire, and provided with flaps or free edges turned over and cemented to the inner face of the rim, is invalid, because it seeks to broaden the invention of the original patent of September 9, 1890, by omitting from the combination an element clearly described in the specifications, and included in the claim, namely protective strips of caoutchouc interposed between the edges of the rim and the strengthening folds. 53 Fed. Rep. 113, reversed.

2. SAME—OMISSION OF ELEMENTS.

The omission from the claims of a reissued patent of an element of the combination which is clearly a part of the invention described and claimed in the original, and obviously constitutes an efficient and valuable member thereof, will render the reissue invalid, although such element is not indis-