

SMEAD *ET AL.* V. UNION FREE SCHOOL-DIST., ETC.

*Circuit Court, N. D. New York.*

November 29, 1890.

1. PATENTS FOR INVENTIONS—DRY CLOSETS—NOVELTY.

In patent No. 314,884, granted March 31, 1885, to Isaac D. Smead for a dry closet in which air is used to desiccate fecal matter, the first claim is destitute of novelty, everything essential to the invention stated having been described by Henry Ruttan in his book published in 1862; but the second and third claims are not without novelty, the improvements on the Ruttan system being a vault in the form of a tube so arranged as to receive deposits distributed along its surface in comparatively small quantities at any given place.

2. SAME—INVENTION.

Patent No. 352,157, granted Isaac D. Smead for improvements in his closet, by which air is let into the vault from the outside of the building, and a fan employed in the vent-shaft to create a draught, is void for want of invention.

3. SAME—ANTICIPATION.

In patent No. 363,971, also granted to Isaac D. Smead for improvements in the closet, the first claim is not without novelty, the transverse partition located in the vault being serviceable, and adding somewhat to the efficiency of the closet; in view of the prior patent to W. S. Ross, the second claim is without novelty.

In Equity.

*J. B. Foraker, H. H. Rockwell, Lysander Hill, and John W. Munday*, for complainants.  
*Warren, Patterson & Gambell*, for defendant.

WALLACE, J. This is an action for infringement of letters patent No. 314,884, dated March 31, 1885, granted to Isaac D. Smead for new and useful improvements in dry closets. The defenses are that the claims of the patent are destitute of patentable novelty, and that the invention was in public use more than two years prior to the application for the patent. 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

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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 along-side 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

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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.”

The patentee was not the originator of the method of treating fecal deposits by an air current to desiccate them and remove their odor, nor the first to utilize for that purpose the air drawn for ventilation from the various rooms of the building; nor was he the first to do this by using a system of air ducts like those described in his patent, leading into a gathering room, and a vent shaft like that described in his patent for creating the requisite draughts. The credit for all this belongs, according to the present record, to Henry Ruttan, of Canada, who published in 1862 a book upon the ventilation and warming of buildings, which is a very valuable contribution to the literature of that subject. Everything in the specification of the present patent, which is essential to the broad invention stated in the first claim, is described in Mr. Ruttan's book. But, instead of a vault like that described in the patent, Ruttan's closet had a basin located within and at the bottom of the gathering chamber, a single basin to which all the deposits from the various closets in the building were to be conducted. It was placed in front of an opening into the vent shaft, and consequently was in the line of the air current entering the vent shaft. It was in no sense a tube or air duct between the gathering chamber and the vent shaft. The gathering chamber opened directly into the vent shaft. Obviously, in such a closet the air current can only reach the top of the deposits in the basin; it may create a crust over the deposits, but will not dry the mass. Such a closet might do the work of removing the odors, but it could not do the work of desiccation. No one can doubt that it would be of very little practical utility in a building in which it would be used by any large number of persons. Those who were familiar with it, among them the Ruttan Heating & Ventilating Company, engaged in manufacturing Ruttan's heating and ventilating apparatus, and whose interest it was to introduce his closet, attempted to do so to a limited extent in family residences, but never recommended it for large institutions or public buildings, and finally abandoned closet work altogether. The change made by Smead in the organization of the Ruttan closet by inserting a vault in the form of a tube between the gathering chamber and the exit vent

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adapted the vault to receive deposits distributed along its surface in comparatively small quantities at any given place, and to act as a duct for a

condensed current of air. The deposits are thus exposed intimately and effectually to the air current that travels through the vault to the exit shaft. It was this change which made the dry closet of the patent a practical and commercial success, and led to its introduction in many public buildings. The testimony in the present record proves beyond peradventure that the dry closet of the patent is an extremely useful and valuable invention. The witnesses testify that in buildings where the Smead closets are used by hundreds of people daily no foul odors arise, the fecal matter becomes within 36 hours after its deposit so dry as to be combustible, and shrinks so much in weight that the deposits of many months can be carried away in two or three barrels. No doubt is entertained that the novelty of the second claim of the patent is not impeached by the closet described in the Ruttan book, or that the change made by the patentee in the organization of the devices of Ruttan was one that involved invention. The second claim of the patent is aptly expressed to specify the invention really made by the patentee by reference to the specification and drawings. Limiting the third claim to one for a combination of the same parts as the second claim, but omitting the gathering room, its novelty is not negated by the Ruttan publication. It is not entirely clear that this claim is fairly capable of such a limited interpretation; but, unless such an interpretation is placed upon it, the patent will be of but little practical value, because any infringer, by dispensing with the gathering room, will appropriate the real invention of the patentee without infringing the second claim. Obviously, the gathering room is not an essential feature of the real invention, and the foul-air ducts can be conducted directly to the vault without the interposition of the gathering room. It cannot be assumed that the third claim is for the same invention as the first. The patent-office must have understood that there was some distinction between them, and could not have intended to allow two claims for the same thing. With some hesitation, the conclusion is reached that the third claim can be construed more narrowly than the first, and that the dry closet of that claim is one in which the vault is of the particular form described in the specification, and not, as in the first claim, a vault of any description, through which air can be conducted.

The prior patent to W. S. Ross, cited for the defendants, is of no importance as an anticipatory reference to either claim of the patent, or as tending to suggest the absence of patentable novelty in the second or third claim. The Ross patent is for a furnace for baking or burning fecal deposits by heat. The vault is located between the fire pot and the smoke flue, and has within it a transverse shelf or partition for the reception of the deposits. When the furnace is in operation, the products of combustion pass over and beneath this shelf, and thus burn or bake the deposits. The defense of prior use based upon the dry closets of Mr. Clark, Mr. Yeomans, and the Mount Carroll closet, cannot prevail. These closets are illustrations, more or less crude, of the Ruttan closet, with unimportant

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modifications. It is doubtful whether, from a sanitary point of view, any of them were an improvement upon the old-fashioned privy.



The first claim of the patent, having been asserted and put in controversy by the complainant, and being adjudged void for want of novelty, must be disclaimed. Upon filing a proper disclaimer, the complainants are entitled to the Usual decree, but without costs.

The second suit between the parties is brought upon two later patents granted to Mr. Smead (Nos 352,157 and 363,971) for minor improvements upon the dry closet of the patent which has been considered. The questions of the validity and the infringement of these patents have been but little discussed by counsel, and may be briefly disposed of. The earlier of these two patents, so far as it relates to the claims now in controversy, is for a modification of the principal patent and covers improvements by which air is let into the vault from the exterior of the building, and by which a fan is employed in the vent shaft to create a draught. It could not involve invention to devise either one or both of these modifications. Invention cannot be reasonably asserted of making a hole in the wall of the building to let air into a vault, or of using the well-known fan to create a draught of air. As to the later of these two patents, undoubtedly the transverse partition located in the vault, which is the subject of the first claim, is serviceable, and adds somewhat to the efficiency of the closet. When constructed, as that claim implies, of absorbent material, the improvement seems to be new and patentable. But in view of the Ross patent, the second claim is without patentable novelty. Upon filing a disclaimer as to the second claim of patent No. 363,971, the complainants will have a decree upon the first claim, without costs.