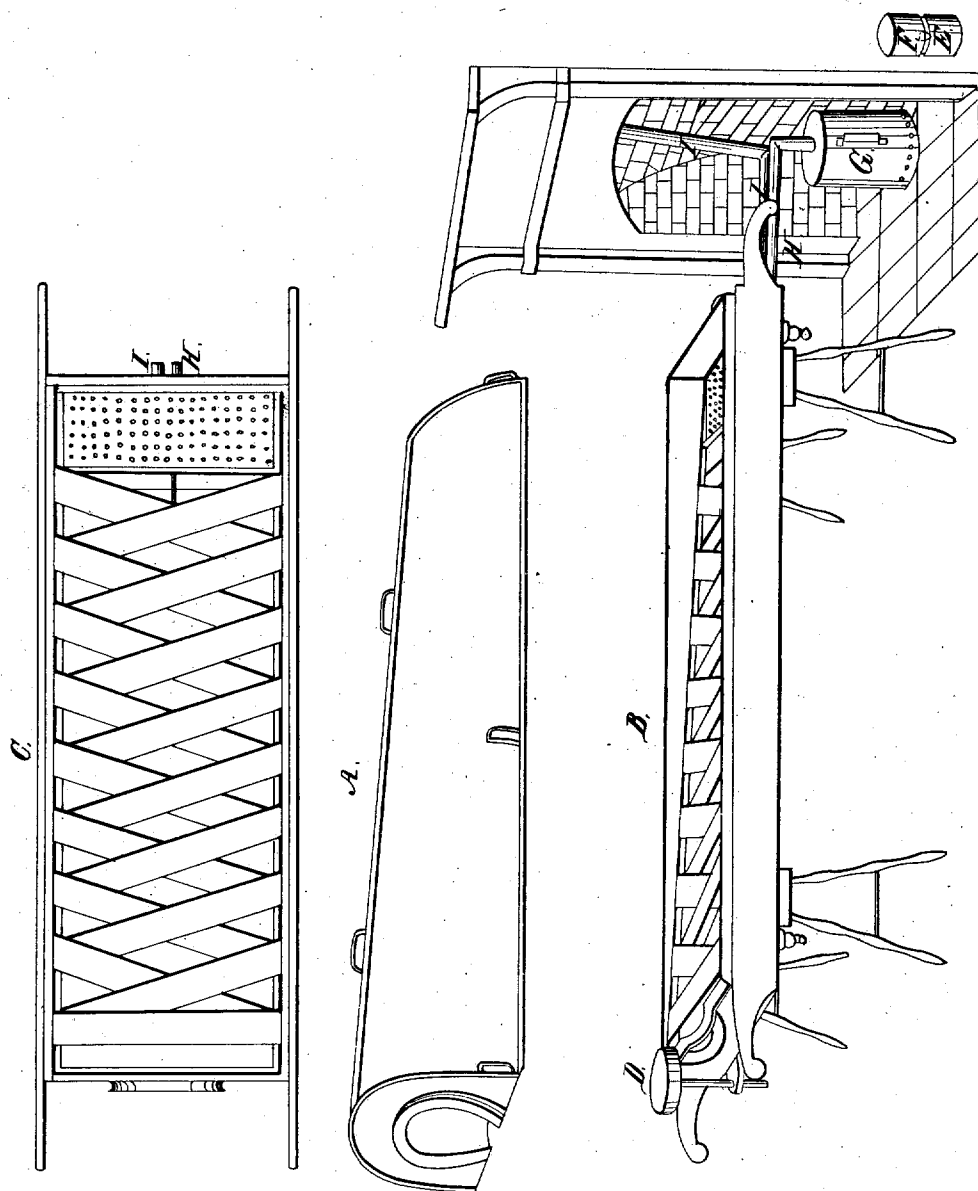


6363X

*B. Reiley,*

*Vapor Bath.*

*Patented Feb. 5, 1831.*



Feb. 5. 1851

Bayer Reilly X6363

The schedule referred to in the Letter Patent aforesaid  
is part of the same containing a description in the  
course of the said Bayer Reilly himself of his in-  
vention in apparatus for applying either simple  
or medicated vapour, or steam, to the surface of the hu-  
man body.

To all to whom these presents shall come. Be it known  
that I, Bayer Reilly of the City of Cincinnati in the  
County of Hamilton and State of Ohio have invented  
a new and useful improvement in apparatus for apply-  
ing either simple or medicated steam to the surface of the  
human body, with perfect ease and safety in the  
chamber of the sick, and that the following is a full and  
exact description of the construction and operation  
of said apparatus as invented and used by me.  
Figure A on drawing represents the top or cover, which  
should be made the first, so that the wooden frame below  
may be fitted perfectly tight to it, which, in using  
medicated vapour in a close room is indispensable, of  
frame square at the end is formed of hoop iron one  
inch and quarter in width, the frame to measure  
five feet six inches in length and two feet in width,  
an opening is left at one end in the centre to admit  
the neck of the patient, the ends of the iron at this open-  
ing are connected by a circular piece of sheet iron, which  
encloses the patient's neck, the inner circle of which is two  
inches in diameter and of the same substance as the frame  
to which it is attached, one inch and a half is tapers  
ed to be cut in a straight line off this circle of iron  
this device leaves the space at which the patient's neck  
is admitted, this circular plate must have a range of

holes round its center, two inches apart and another  
sunk on the inside, to suit the flat-headed inch screw.  
The circular <sup>plate</sup> is then attached to the frame with two small  
rivets at each end, being on the outside of the frame and  
the ends of the circle kept one half inch from the lower  
edge of the frame which half inch goes into the groove  
of the wooden frame below. The hoop iron of which the  
arched ribs are <sup>now</sup> formed, should be lighter than that of  
which the frame has been formed, the ribs should be five  
or seven in number according to the strength of the iron  
used. The rib at the head should be sixteen inches  
from the center of the arch to the bottom of the frame,  
the rib at the foot ten inches, the intermediate ribs  
graduated by a straight line with the top, the ribs  
connected by a straight length of the iron running  
round the center of the top with a rivet in each rib.  
The ribs are attached to the frame on the out side,  
within half an inch of the bottom line, with two rivets  
in each end, except the ribs to which handles are  
attached, one end of the handle is ~~inserted~~ <sup>inserted</sup> ~~in~~ <sup>in</sup> ~~the~~ <sup>the</sup> ~~rib~~ <sup>rib</sup> ~~for~~ <sup>for</sup> ~~one~~ <sup>one</sup> ~~of~~ <sup>of</sup> ~~the~~ <sup>the</sup> ~~rivets~~ <sup>rivets</sup>. The handles are made  
of iron wire three eighths of an inch in diameter,

They are four inches in length and projected one inch and a half. Two of them are rivetted in the straight central piece of the top fifteen inches from each end. They are to enable one person to remove the top cover. One of them is rivetted at the lower end of the ribs at the head and foot, and the centre. They are for the purpose of forcing the frame into the wooden groove to which it will be fitted. The whole frame for the top is covered, being thus formed is covered on the outside with strong emeryed linen, the ribs being previously covered with strips of the same grain and bound in the

the outside the cover laps round the lower edge of the frame and is sewed there and at the edges of the head and foot sides where the covering of the top is joined to the cover with strong thread. The handle being let through the cover and the openings for the same carefully closed. Three coats of varnish laid warm on the inside is generally sufficient to close up the pores of the linen and prevent the escape of the vapours, and the action of the Sulphur on the iron frame. To make the varnish cut up two ounces of gum elastic into thin strips put it into a quart of spirits of turpentine which will soon reduce it to a jelly, then to one gallon of linseed oil add one pound of litharge, one fourth of a pound each of sugar of lead, and white vitriol, and one large onion stripped of its thin outer coats. simmer the oil, dries and onion over a charcoal fire in a copper vessel capable of holding a much larger quantity, so that time may be afforded for removing the oil from the fire when there is danger of its boiling over. Stir the driers constantly from the bottom and when the onion assumes a dark brown colour the oil may be removed from the fire having had time to settle, draw it off clear and add the gum and turpentine when it is at blood heat lay it on warm with a brush, let each coat be well dried before another is added. The varnish being dry cover the bottom part of the frame all round with stout woollen cloth, neatly joined, so as to leave the groove into which it fits smooth and unobscured. The top may have an ornamental cover of oil cloth or other stuff, the handle covered with worsted binding or leather. Figure B. on drawing represents the part of the apparatus on which the patient reclines. it consists of

two frames made of the inferior kind of Mahogany  
 or other wood combining lightness with strength. The  
 inner frame is made to fit exactly within the cloth,  
 covered edge of the top cover, the sides and ends are  
 six inches wide or deep and three fourths of an inch  
 in thickness, dovetailed at the corners and rounded  
 at the upper edges, inside and out, a piece of stuff  
 of the same breadth and thickness is dovetailed or sub-  
 fitted flush into each end of the bottom, and a piece  
 three inches wide, across the centre of the same, two  
 ledges to which the webbing (on which the patient re-  
 clines) is attached, are secured to the inner sides with  
 glue and stout flat headed screws, countersunk on  
 the outside. These ledges run the whole length from  
 head to foot, inclining from the top of the frame  
 at the head, to the false or upper bottom at the  
 foot, they are one inch and a quarter in width,  
 and one inch in thickness. They have notches cut on  
 on the inside, one fourth of an inch in depth and  
 three inches in length, which is the width of the  
 webbing. The notches commence at two inches from  
 the head, and continue at intervals of three inches  
 to the inside or inner edge of the bottom board at the  
 foot, the inside of the notches and the outer edges of  
 the ledges, are rounded smooth to save the webbing from  
 wearing or cutting. The false or upper bottom of  
 hem of a hem, forms the passage by which the steam  
 escapes underneath, after having enveloped the pa-  
 tient's two pieces of pine wood, two inches and a  
 half in width at the foot, one inch at the head &  
 one inch in thickness, resting on the bottom boards in-  
 side are glued and nailed fast to the sides frame head  
 to foot, a piece of pine five inches and half in width

and half an inch in thickness, and extending in length from side to side is let into these pieces flush, one half inch from the inside of the head board, leaving a passage of half an inch for the escape of the steam between the head boards and bottom, four similar pieces placed edge to edge each four inches wide & extending from side to side and let in flush, extend from the centre towards the head, to sustain the weight of the patient when he sits down, previous to receiving one piece of the same six inches in width let in flush and extending between the webbing ladders, joints against the inside of the foot, as the admission pipe from the furnace passes through this board and the escape pipe is under it so that it may be sometimes necessary to open it, it should be fastened with screws into the side pieces. The other pieces should be nailed fast, and being covered from the inner edge of the board at the head to that of the foot with strong varnished linen like the top. The false or upper bottom is thus formed, and the steam is retained by covering the bottom of the frame from head board to foot board in the manner. The screws and nail heads inside the frame, should be carefully covered with putty to preserve them from the corroding influence of the steam, and the tacks which fasten the varnished linen on the upper bottom may be secured by extending the edges of the linen as to turn over the tack heads, and fasten down by interlacing a little of the varnish between, —

The outer frame which the workman will (of course) fasten on before he applies the double covering of linen to the bottom, is fitted exactly to the inner frame, the sides and ends five inches deep, three fourths of an inch in thickness, and the sides extending nine inches

at each end, to form the handles, the corners are mitred. The inside of the upper edge all round is rabbetted, so as to form a groove, when attached to the inner frame half an inch deep, and wide enough to admit the cloth covered edge of the top or cover, fitting as close as possible. This groove may be slightly tapering towards the bottom, on the outer side, which has a tendency to keep the inside of the top frame against the rabbet formed by the difference <sup>in depth</sup> between the two frames which is one inch. Care must be taken to join the sap edge of the sides of one frame and the heart edge of the other frame together, which has a tendency to keep the sides from springing, and thereby opening the groove in which the top is fitted and letting the vapour escape. The appearance of the outer frame is much improved by rounding or swelling the sides and ends so as to leave a substance of one fourth of an inch on the outside of the frame. The outer frame is carefully glued and secured by screws to the inner frame, the screw heads being countersunk on the inside of the inner frame and not coming directly through the outer frame. Four legs four inches long each are pinned and glued into the lower edge of the united frames near the ends, so that they may have the support of the lat-<sup>ter</sup> as they are for the purpose of keeping the elbows of the tin pipes hereafter to be described, and also the bottom clear of the ground when the apparatus is set down; and legs of a sufficient height to apply the furnace and pipes to it, would be much in the way in taking it up, to move chambers, so it is calculated to be placed on four common chairs. A wooden rim must be made to go round the neck of the patient. The inner circle is two inches in diameter, to correspond with the rim at the head of the cover, or top. It is one inch and a quarter square

and should be made of two thicknesses glued together, the grain of one crossing the other, the edge is deeply indented with a pounce all round, the inner edge is rounded off so as to be easy to the patient, this rim is attached to the iron rim at the head, after the cover is put on, by screws from the inside, the screw heads covered with the oil cloth, the rim cut off to suit the iron will extend to the top of the frame and be eight inches and a half from the top of the inner circle to the edge of the frame when the top is in its place, the piece of the rim cut off being one inch and a half inside, is let into the head of the outer wooden frame so as to join the upper part of the rim, and then glued fast, it will be necessary to reduce the thickness of this piece to bring it even with the upper part, a piece of wooden cloth should be glued to the ends of the upper part to make the joint better if the outer frame is rounded it will be necessary to hollow out the end of the frame under the circle to the depth of the round or swell. Figure

C on drawing represents the top of the wooden frame with the way in which the webbing is applied entering both ends at the two upper notches, and after crossing them continue to enter them on the upper side all the way to the ends, where they are secured by eye-let holes and stout cord lacing, a piece of hard wood should be run into a loop or sheath formed by lapping the ends of the webbing below the larks. The hole which admits the steam at the bottom may be covered by a movable piece of thin board perforated, it is however of little consequence, as none but the feet of very tall persons can reach the aperture. Figure D on drawing represents a circular

Next on, it rests on a wooden screw twelve inches  
 length and about one inch in diameter, which is  
 made in a piece of board twelve inches long, three  
 inches wide and one inch thick, it is attached to  
 the bottom board at the head by a light sheet of  
 iron or sheath, from which it may be drawn and  
 placed inside when the apparatus is removed, this  
 cushion is raised or lowered to suit the convenience  
 of the patient. Figure B on drawing represents  
 the tin vessel four inches deep and three in diameter,  
 three pieces of double tin should be riveted at  
 equal distances round the rim to raise the vessel  
 up on it about an inch. Three half gills of pure  
 alcohol with an equal quantity of water will burn  
 about the time necessary for the patient to be in the  
 apparatus. Alcohol undiluted burns with too  
 much violence. Figure F on drawing represents a  
 tin vessel four inches deep and four inches diameter,  
 this will be found large enough to contain water for simple  
 steam, or sulphur &c for medicinal vapour, if it is neces-  
 sary to use herbs, a larger vessel will be requisite.  
 Figure C on drawing represents a cap or cover twelve  
 inches deep and eight inches diameter, made of strong  
 tin, a handle riveted at the side, and a flange on the  
 top to receive pipe H, which conducts the steam into  
 the bottom of the apparatus. The vessels B & F are  
 placed under this cap or cover, the bottom being open  
 and the holes punched round the lower edge to admit  
 the air. Pipe H is one inch and half diameter &  
 is fixed to the cap or cover C and the vessels B & F should  
 be secured with rivets &c as not to depend on solder  
 which is soon melted by the sulphur, the pipe I (see  
 drawing) receives the steam after it has risen from the patient

and returned between the bottoms to be conducted up the chimney) may be simply soldered, it is two inches diameter. an elbow for each of these pipes being one inch apart is secured to a plate of tin which is fastened in the centre of the bottom board at the foot of the machine. the tin plate extending to the outer edge to prevent the heat from the furnace pipe <sup>from</sup> scorching the wood. this pipe must be conducted thro' both bottoms by a pipe flanged on the top so that it may not come in contact with the upper or lower bottom boards. the holes for its admission through which being at least two inches diameter. the lapping of the pipes at joints and elbows will of course be regulated by the course of the current of steam, the same as the pipe of a stove for <sup>the</sup> smoke. To prevent the escaped the vapour from the opening at the head a band is made of strong silk coated on both sides with the gum varnish. this band (or bag open at both ends) must be long enough in circumference. to pass over the rim at the head, it is two or three inches in length and covered on both sides with unvarnished silk or other thin material, the varnish feeling unpleasant to the patient much around one end is a drawing string, the string long enough to pass round the outside of the bag after it has been drawn tight round the rim. when using sulphur it cannot be made too secure. The patient should be divested of all his clothing unless he should wear a flannel dress next his skin. should not that be the case, a loose flannel wrapper may be worn. the bag is put round the neck, the drawing string end next to the shoulders. the other end being laid in plaits or folds round the neck, kept in their places by the grasp of the operator, a large silk handkerchief is passed

folded round, first under the edge, then around, and drawn as tight as convenient to the patient when sulphur is used, it discolours the skin of the hands until the scurf skin peels off. This may be prevented if desired, by having coverings for them of the same material as that of the neck, the penetrating nature of the sulphur causes it to be painful to the testicles, they should be covered by a bag made in like manner (This part of the preparation may be omitted with females.) the patient thus prepared should be secured on the frame between the centre and the head, reclining them on his side (which is the best position, if however the back is preferred the cushion for the head must be secured down nearly to a level with the bottom or rocking) his head resting on the cushion which should be elevated as high as convenient to him. The top is put on and carefully brought to its proper depth in the groove, the bag secured round the vein, as already explained, the alcohol ignited and the cap and pipe attached. Although I have made this application some hundreds of times, being a Mechanic I require the patient to take medical advice in cases of difficulty, in simple cutaneous or rheumatic cases, I pursue the following course. If the patient's skin is in a dry state I gradually cause perspiration in a few minutes by steam from half a pint of water placed over the alcohol in the tin vessel, perspiration appearing on the forehead is the proof, the heat and condensation vapours inside often deceiving the patient, the water being removed, a full half burner of roll limestone is put in the cavity next, which in this small apparatus takes as long to burn, as the patient can conveniently remain.

main in it, the fire must be kept up fifteen minutes after the sulphur has burned out, to discharge the fumes by the current of heated air, a strong <sup>odor</sup> will however remain, so that it will be necessary to raise the upper end of the top (having made it loose all round) sufficiently high to let the patient out, it must then be replaced and the apparatus quickly removed from the apartment. In the recumbent position, the patient seldom feels faint, & unless previously reduced, should <sup>such</sup> symptoms appear the sulphur may be removed to the back of the fire place, the alcohol still kept burning in its place, the usual application made to the patient such as admission of fresh air, vinegar, cold water &c. to the face, but the patient must remain in the apparatus, where he will be as well as anywhere else till the fume is discharged, some of my medical friends here have just informed me that camphor has been lately used as a good substitute for the sulphur, in rheumatic cases. I feel convinced by much experience of the utility of outward applications, I have improvements, however, in them, & those capable of making them, hoping that my humble efforts will afford improved means for their use. So females have often been much terrified at being confined in an apparatus evidently communicating with the fire, I have planned a fixed bath which may be made ornamental to a bathing establishment or private dwelling, the principle the same, it may have the outward appearance of a bed &c, the legs at the lower end or foot of the machine being hollow, the furnace may be placed in an adjoining room, the fume or steam conveyed in a pipe under

in a raised floor, or through the floor from an apartment below admitted through one leg, & discharged by the other. In a room without a fireplace, the portable apparatus may be used by having an additional elbow to the escape pipe, it can be put out of the window, the opening on each side filled up with a blanket &c, should a close stove be used it may be introduced into it, in the absence of a fire place an hearth however, some convenient nonconductor of heat should be placed between the furnace and the floor.

Witnesses

Charles Fisher

Benjamin T. Reilly

Boyd Reilly

[9750 w]