March 29, 1932. E. W. GILHOOL 1,851,386

RADIATOR INCLOSURE

Filed Dec. 30, 1929

Fig. 1.

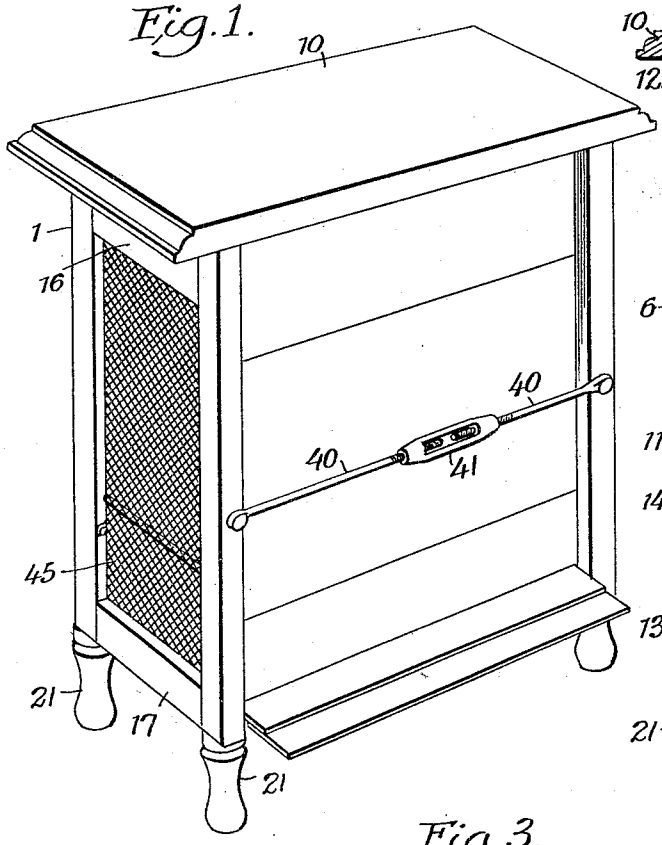


Fig. 2.

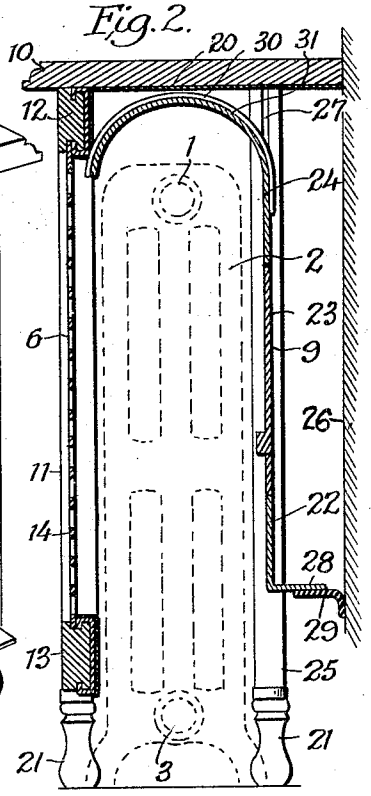


Fig. 3.

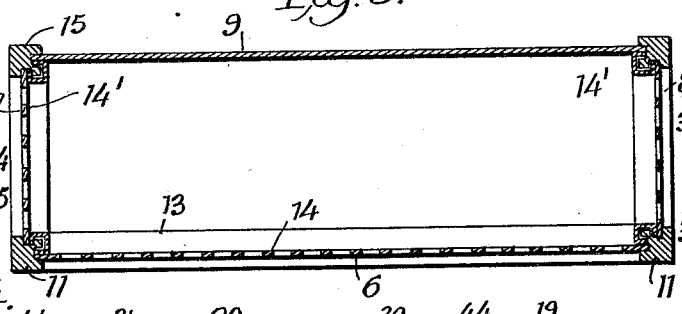


Fig. 5.

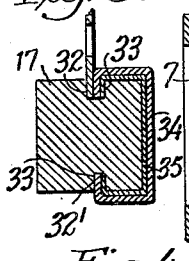


Fig. 6.

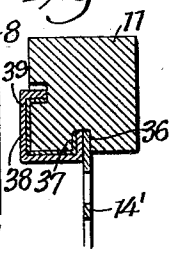
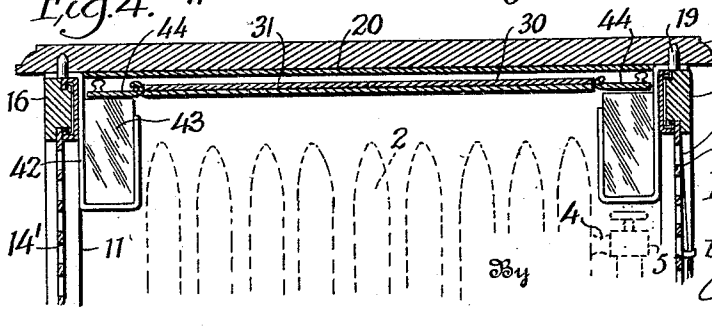


Fig. 4.



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UNITED STATES PATENT OFFICE

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RADIATOR INCLOSURE

Application filed December 30, 1929. Serial No. 417,530.

This invention relates to improvements in radiator inclosures, and particularly to inclosures of that type designed to encase the front, ends and top of the radiator and normally having a back opening by means of which they may be positioned to encase the radiator and be withdrawn to give free access to the radiator for any purpose.

The primary object of my invention is to provide a radiator inclosure which may be constructed largely of wood and provided with an interior metallic shield and insulating lining so constructed as to prevent burning or other injury of portions of the inclosure from accidental contact with the radiator.

A further object of the invention is to provide a novel construction of radiator inclosure which ensures a free and proper circulation of the heated currents of air, while collecting and preventing circulation of dust taken up by the moving currents of heated air, and which provides for the ready and convenient cleaning of the radiator from accumulated dust at desired intervals.

A still further object of the invention is to provide a radiator inclosure which, while of simple and inexpensive construction, may be mads as ornamental as desired, and which may be largely or wholly of knock-down type so as to permit of its shippage or transportation at small cost and the ready and convenient connection or disconnection of its parts when desired.

With these and other objects in view, the invention consists of the features of construction, combination and arrangement of parts, hereinafter fully described and claimed, reference being had to the accompanying drawings, in which:—

Fig. 1 is a perspective view of a radiator inclosure embodying my invention, looking toward the same from the rear thereof.

Fig. 2 is a vertical front-to-rear section through the radiator inclosure and showing the radiator in dotted lines.

Fig. 3 is a horizontal section through the radiator inclosure.

Fig. 4 is a vertical longitudinal section through the radiator inclosure.

Fig. 5 is a sectional view through one of the horizontal bars of the radiator inclosure.

Fig. 6 is a similar view through one of the posts or standards of the radiator inclosure.

Referring now more particularly to the drawings, 1 designates generally my improved radiator inclosure which comprises a box-like casing to inclose a radiator 2, which latter is connected in practice with a heat circulating system by an inlet pipe 3 and an outlet pipe 4 and is provided with a valve 5 for controlling the flow of hot water or other heating medium.

The inclosure 1 is normally open at its bottom and rear so that it may be conveniently placed in position to inclose the radiator, and it is provided with a front wall 6, end walls 7 and 8, a rear wall 9 and a top 10. As shown, the front wall 6 comprises front corner posts or standards 11, horizontal top and bottom bars 12 and 13 and a screen panel 14, which panel may be made of perforate sheet metal, as disclosed, or of wire or other perforate or reticulated material. Each end wall 7 and 8 comprises one of the front corner posts or standards 11, a rear corner post or standard 15 and top and bottom horizontal bars or cross pieces 16 and 17, together with perforate screen panels 14′, while the top 10, which is preferably imperforate or comprises a solid slab-like section of wood, is detachably fitted in position, being provided with dowel seats or grooves 18 to receive dowel pins or projections 19 on the corner posts or bars 16 of the end walls whereby it is held in position against casual displacement but may be readily removed at any time. The top is provided on its underside with a shield plate 20 of metal, asbestos sheeting or other material to protect it from the heat of the radiator.

The inclosure has its corner posts 11 and 15 provided with supporting feet 21 to hold the open bottom of the inclosure spaced from the floor in order to allow air to freely pass upward to and through the radiator so as to be heated thereby. For a similar purpose, the rear wall 9 is made detachable and formed of a bottom section 22, intermediate section 23 and top section 24, the section 22 terminating at its lower edge some distance

above the lower ends of the posts 15 in order to provide an open passage 25 for the upflow of air from the bottom of the space between the radiator and the wall 26 of the room, in order that the air may pass upward into the radiator to be heated, carrying with it any dust from the floor line, and so that the dust will not be caused to be drawn forward beyond the radiator and projected by currents of air as free dust into the atmosphere. The sections 22, 23 and 24 of the wall 9 are slidably fitted in grooves 27 in the inner faces of the corner posts 15, so that these wall sections may be inserted in a ready and convenient manner and the top section removed independently of the others for access to the radiator from above, or the intermediate section removed therewith, or all three sections removed as desired or when it is required to withdraw the inclosure for repairs or repainting from the radiator, to permit the latter at required intervals to be painted or cleared of accumulated dust, or to repair the radiator or for other purposes. The lower wall section 22 is shown as provided with a rearwardly extending flange 28 carrying a flexible flap 29 of rubber, felt or other similar material to bear against the wall 26 and close the space between the radiator and wall at the top of the passage 25, thus preventing the air and dust from rising directly at the rear of the radiator and causing the same to pass upwardly and forwardly between the sections of the radiator, so that the air will be effectively heated while the dust will be caught and retained.

The upper section 24 of wall 9 is provided with a forwardly extending curved or arched hood portion 30 which closes the top of the space between the front and rear walls of the radiator, and prevents the heated air and dust from rising and coming in contact with the top 10 or escaping at the upper portion of the radiator inclosure when said top is removed. This hood furthermore serves as a deflector to cause the heated air to flow forward or laterally, so that the heated air will be discharged at the front or ends of the radiator inclosure and through the screen panels or grilles thereof. This hood is preferably provided with a covering 31 of sheet asbestos to confine the heat and prevent transmission of the same to the top 10 and adjacent portions of the body of the radiator inclosure.

The parts thus far described, except the screen panels and rear wall portions, which latter may be made of sheet metal, are preferably constructed of wood, so as to admit of a desirable economy of construction and other attendant advantages. For the purpose of protecting the main and essential wood parts, to wit, the posts or standards 11 and 15, and the horizontal bars or cross pieces 12, 13, 16 and 17 from liability of burning or warping from the heat of the radiator, I construct these parts in a novel manner and provide them with a metallic shielding of novel construction, as shown particularly in Figs. 5 and 6. Fig. 5 shows in section one of the horizontal bars or cross pieces 17 which is provided in its upper and lower faces with grooves or recesses 32 and 32′ to receive the flanged ends 33 of a channeled metallic shield piece 34 and a correspondingly shaped interior lining 35 of sheet asbestos or like insulating material. Fig. 6 shows one of the corner posts 11 or 15 which is similarly provided in two of its faces with grooves 36 of like width receiving the flanged ends 37 of a metallic shield piece 38 and a lining 39 of sheet asbestos or similar material. These metallic shields and their insulating linings cover the inner faces of the posts 11 and 15 and the bars or cross pieces 12, 13, 16 and 17 and protect the same from any possibility of being burned or otherwise damaged from accidental contact with the radiator. In practice, the insulating linings are applied to the channeled metallic shield strips so as to be applied with the strips to the grooves of the posts and cross pieces by sliding engagement with said grooves. By this means the companion wooden parts of the inclosure may be strengthened and reinforced and at the same time shielded and protected from injury, thus securing in an inclosure structure formed largely of wood economy of production with strength and durability, and freedom from injury, comparable to the heavier and more expensive sheet metal inclosure structures commonly in use. It will be observed that certain of the grooves in the corner posts and cross pieces are made of sufficient width to receive the edges of the screen panels 14 and 14′, and the panels are therefore snugly accommodated and held in position, and they may be fitted sufficiently tight in the grooves to form joining connections between the posts and cross pieces of the walls, whereby a knock-down construction may be obtained without the use of fastenings. In practice, however, bolts or screws may be employed to connect the corner posts and cross pieces so that these parts and the cooperating parts of the inclosure may be detachably connected after assemblage, making a knock-down structure which may be assembled at a store or service place or at the point of use of the inclosure, if desired. In order to connect and prevent spreading of the inclosure at the rear I provide a fastening connection between the posts 15 comprising tie rods 40 threaded to receive a turn-buckle 41 which, when in loosened condition, will spread the posts 15 to a sufficient extent to permit free and easy removal of the rear wall sections 22, 23 and 24, and which when tightened will prevent spreading of said posts 15 and hold said rear wall sections clamped against movement.

It is desirable to provide the inclosure with

humidors or moisture evaporators for obvious reasons, and to this end U-shaped brackets 42 are provided to receive water receptacles 43, and which are fixed to or detachably hung from the cross bars 16 so as to dispose the water receptacles at the end of the inclosure and immediately below the ends of the hood 31. For the purpose of permitting ready refilling of these receptacles the ends of the hood may be provided with openings through which water may be introduced when the top 10 is removed, and which openings may normally be closed by shutters 44. Either or both of the end screens or panels 14′ may be provided with an opening or openings, closed by suitable closure members 45, by means of which access may be conveniently obtained to the valve 5 or to other similar parts of the radiator, without the necessity of removing the inclosure or materially disturbing any of the parts thereof.

Having thus described my invention, I claim:—

1. A radiator inclosure comprising a frame normally open at the bottom, rear and top and including front and rear pairs of corner posts and front and end screen panels engaging the posts, a detachable top for the frame, and a detachable rear wall formed of detachable independent top, bottom and intermediate sections slidably engaging the rear corner posts frame and including an arched hood carried by the top section and adapted to lie between the detachable top and the radiator and to overhang the latter, and a connection between the rear corner posts of the frame adjustable to expand and contract the rear of the frame to permit removal of the rear wall or to hold it from movement.

2. A radiator inclosure comprising a frame normally open at the bottom, top and rear and including front end walls formed of corner posts, horizontal cross pieces and screen panels, said corner posts and cross pieces having grooves therein, certain of said grooves receiving the edges of the screen panels, and channeled metallic strips having flanges engaging the grooves in the posts and cross pieces and cooperatively providing a metallic protecting surface on the inner side of the frame, a detachable top wall for the frame, and a detachable rear wall for said frame.

3. A radiator inclosure comprising a frame normally open at the bottom, top and rear and including front and end walls formed of corner posts, horizontal cross pieces and screen panels, said corner posts and cross pieces having grooves therein, certain of said grooves receiving the edges of the screen panels, and channeled metallic strips having flanges engaging the grooves in the posts and cross pieces and provided with linings of heat insulating material, and cooperatively providing a metallic protecting surface on the inner side of the frame, a detachable top wall for the frame, and a detachable rear wall for said frame.

4. A radiator inclosure comprising a frame normally open at the top, bottom and rear and comprising front and rear pairs of corner posts and front and end walls including said corner posts, horizontal cross pieces and screen panels, said corner posts and cross pieces having grooves therein, certain of said grooves receiving the edges of the screen panels, channeled metallic strips having flanges engaging the grooves in the cross-pieces, channeled metallic strips having flanges engaging the grooves in the posts, insulating material between the channeled strips and opposed faces of the cross pieces and posts, a detachable top wall for the frame, and a detachable rear wall for said frame.

5. A radiator inclosure comprising a frame normally open at the bottom, rear and top and including front and rear pairs of corner posts and front and end screen panels engaging the posts, a detachable top for the frame, and a detachable rear wall for the frame comprising independent bottom, top and intermediate sections slidably engageable with and removable from the rear corner posts, the bottom section having a rearwardly extending wall engaging flap and the top section having a forwardly projecting hood adapted to overhang the inclosed radiator and to lie between the same and the detachable top.

In testimony whereof I affix my signature.

EDWARD WM. GILHOOL.