

F. A. SCHLOSSER.
RADIATOR.
APPLICATION FILED APR. 26, 1906.

933,118.

Patented Sept. 7, 1909.

2 SHEETS—SHEET 1.

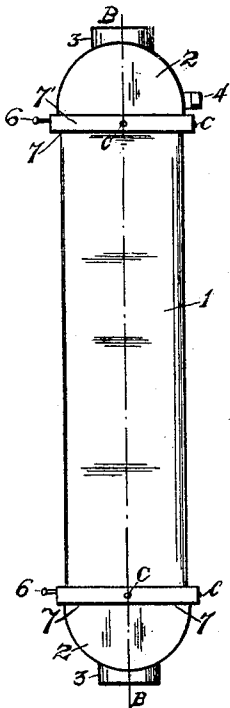


Fig. 1.

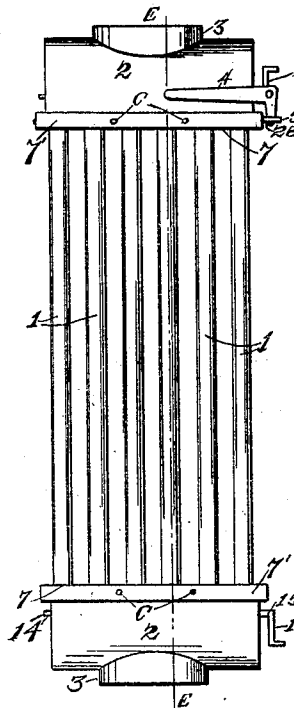


Fig. 2.

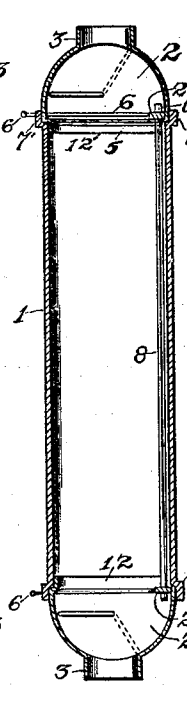


Fig. 3.

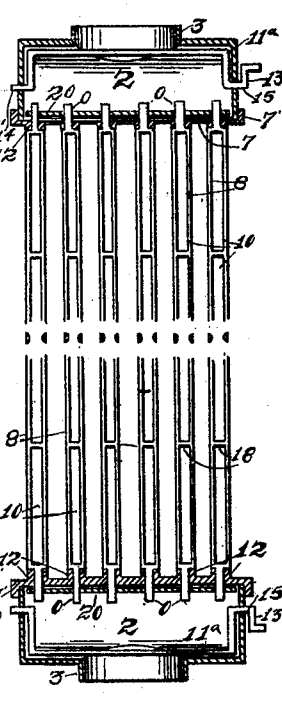


Fig. 4.

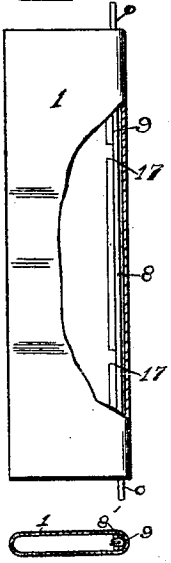


Fig. 5.

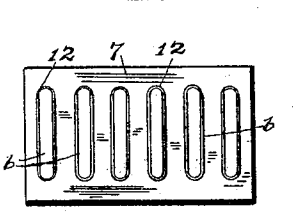


Fig. 6.

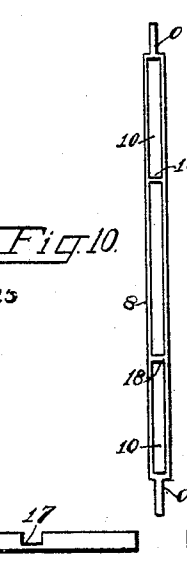


Fig. 7.

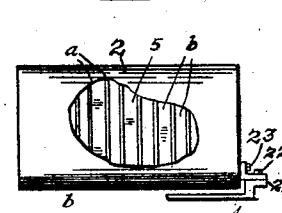


Fig. 8.

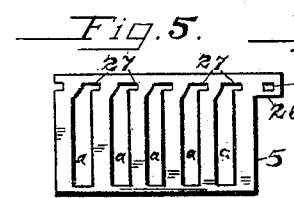


Fig. 9.

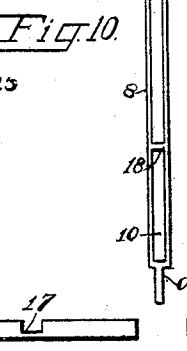


Fig. 10.

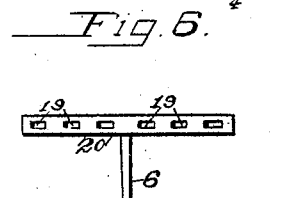


Fig. 11.

Witnesses
Hedge & Quinn
Dunn & Lodge

Inventor
Fred A. Schlosser
By John H. Goss
his Attorney

F. A. SCHLOSSER.
RADIATOR.
APPLICATION FILED APR. 26, 1906.

933,118.

Patented Sept. 7, 1909.
2 SHEETS—SHEET 2.

Fig. 12.

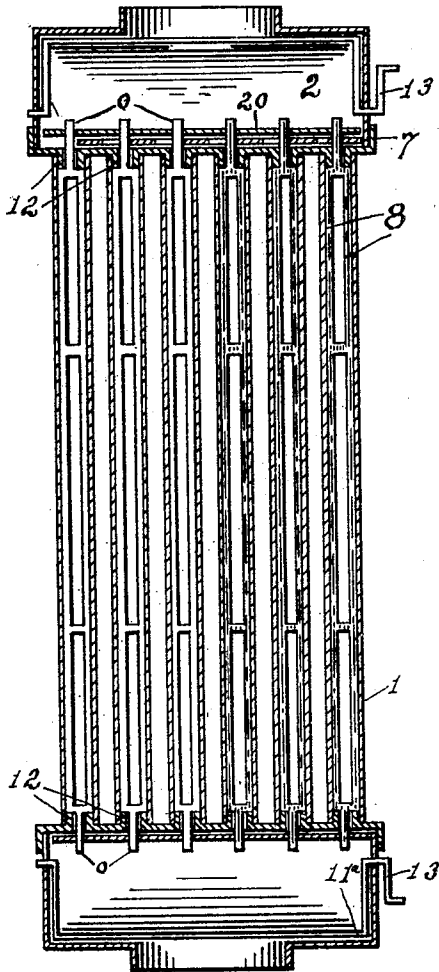
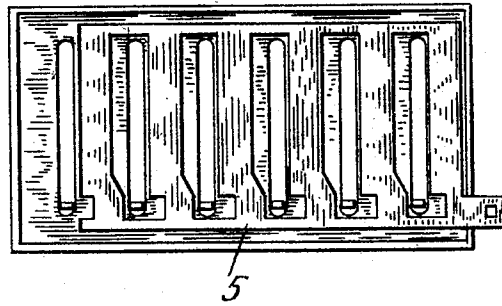


Fig. 13.



Witnesses
David J. Davies
Pearl Gelman

Inventor
Fred A. Schlosser
By *John H. Cozo*
Attorney

UNITED STATES PATENT OFFICE.

FRED A. SCHLOSSER, OF MANSFIELD, OHIO.

RADIATOR.

933,118.

Specification of Letters Patent.

Patented Sept. 7, 1909.

Application filed April 26, 1906. Serial No. 313,864.

To all whom it may concern:

Be it known that I, FRED A. SCHLOSSER, a citizen of the United States of America, and a resident of Mansfield, Richland county, State of Ohio, have invented certain new and useful Improvements in Radiators, of which the following is a specification.

My invention relates to radiators which can be used to radiate heat from coal, gas or other combustible material.

It is designed to be used independently of any other heating apparatus or in conjunction therewith.

The objects of my invention are to construct a radiating device having tubes with a large area of heating surface in proportion to the area of the flue or draft of which they form a part, whereby the radiating device is capable of emitting and diffusing the heat waves into an apartment or room in greater quantities.

A further object of my device is to provide a means of constructing a radiator that is simple in construction and efficient in use.

Another object of my improvement is to provide a means of cleaning the radiator at any time without the necessity of disconnecting the radiator or any part thereof in so doing, as is common in radiators now in use.

The primary object of my invention is to provide a means of constructing a radiator having a series of chambers or drums which, in connection with other suitable means, effectually prevents the heat from passing out through the chimney or flue, radiating and emitting it from the surfaces of the drums or chambers into the room, resulting in a saving of fuel.

I attain these and other objects by the construction illustrated in the accompanying drawing, in which—

Figure 1 is an end elevation of my device. Fig. 2 is a side elevation showing the bell crank lever pivotally attached to the upper hood or drum, with one end fitted to a slot provided in the projecting end of a damper, also a view of the cranks which are adapted to clean the upper drums or flues. Fig. 3 is a cross sectional end view taken on the line E E of Fig. 2. Fig. 4 is a cross sectional side view taken on the line B B of Fig. 3, showing the series of cleaners and the method of their attachment to a suitable bar. It will be noted that the figure does not show the tubes into which the cleaners

are fitted. Fig. 5 is a top view of the flue head. Fig. 6 is a top view of one of the hoods or drums with a portion of the top broken away. Fig. 7 is a top view of the damper. Fig. 8 is a side and end view of a U-shaped bar. Fig. 9 shows a side and top view of one of the tubes showing the U-shaped bar secured to one end. It will be noted that a portion of the tube is broken away showing the cleaner inclosed in the U-shaped bar. Fig. 10 is a side view of one of the cleaner bars showing the openings provided therein. Fig. 11 is a top view of a bar having a series of slots provided therein and adapted to fit the ends of the cleaners, also a top view of the rod which is attached to the bar. Fig. 12 is an enlarged sectional view on the line B—B of Fig. 1, and Fig. 13, is a top plan view of the device with the top hood removed.

In constructing my radiator, I provide a series of flat tubes 1 which are adapted to be connected to flue heads 7 having a series of flanges 12 projecting from the surface thereof and adapted to fit the inner periphery of the ends of the tubes. The opposite side of each of the flue heads is provided with a flange 7' extending around the edge and above the surface of the head, which is adapted to fit and overlap the flat portion of the hoods 2. The hood 2 and the head 7 are connected together by means of bolts or screws *c* (or other suitable fastening means), suitable apertures being provided in the flange 7' and the edge of the hood. The tubes, hoods and flue heads constitute the frame work of my device.

In order to regulate the draft, a damper 5 having a series of openings *a* is provided and adapted to lie on top of the flue head 7 so as to provide a means for closing the openings *b* formed by the flanges 12 in the flue head. It will be noted that the damper is provided with a projecting portion 26 having a slot 25 formed therein the slot adapted to receive one end of the bell crank 4, thus providing a means for reciprocating the damper and closing the openings *b* in the flue head more or less to regulate the draft. It will be observed that the openings *a* in the damper have an inclined portion on one end communicating with slots 27. A portion of the slot 27 is made to extend slightly in advance of the openings *a* on one side, as shown in Fig. 5, to permit the adjustment of the damper irrespective of the cleaner

bars which pass through the slots 27. Bars 20 having slots 19 formed therein are superposed upon the damper plate 5, the slots 19 being adapted to receive the ends *c* of the cleaner bars 8. These bars extend through the tubes 1, in such a manner as to leave the ends *c* of the bars projecting through the openings *b* of the flue head into the slots 19 of the bars 20, the bars 20 being provided with handles 6 projecting out of the hoods, the purpose of which is to provide a means for sliding or oscillating the cleaner bars back and forth in the tubes 1, when it is desired to clean the latter. The sides of the cleaner bars are adapted to contact with the inner surfaces of the tubes as they are moved back and forth in the tubes thereby scraping and cleaning the inner surfaces of the tubes. In order to prevent possible closing of the draft in sliding the cleaner bars back and forth in the tubes, openings 10 are formed in each bar.

A U-shaped bar 9 having notches 17 formed therein, is secured within each tube 1, the bars 9 extending longitudinally thereof, and at one side of each tube. The notches 17 are adapted to register with and receive the braces 18, 18, of the skeleton cleaner bars, when the latter are reciprocated, and the edges of the bars 9 are adapted to engage and scrape the walls of the slots 10 in each cleaner bar. When the cleaner bars are not in use, they are moved toward the edge of the tubes through the medium of the handle 6 attached to the bars 20 until the U-shaped bar extends into the openings 10 of the cleaner bars. Bearings are provided at each end of the hoods into which bearings the ends 14 of U-shaped cranks 11^a are journaled, the cranks being adapted to contact with the inner surface of the ends and periphery of the hoods, when the cranks are partially rotated through the medium of the handles 13, which may be made integral with or attached to the U-shaped cranks.

Reference figures 21, 22 and 23 designate an L support and bolts showing the manner of attachment of the support to the hood and means for pivotally journaling the bell crank 4. A flange 3 is provided on each hood, the flanges adapted to be connected with a stove, furnace or other heating apparatus.

It is obvious that the radiator described can be used as an auxiliary heating means in conjunction with a stove, furnace or other heating apparatus for the purpose of radiating the heat derived therefrom and utilizing the heat that, without its use, would be wasted, or the radiator may be used independently of any other heating means by simply fitting a suitable burner to the radiator and using gas for fuel in generating heat.

Having fully described my invention what I claim and desire to secure by Letters Patent is—

1. In a radiator composed of a series of tubes flue heads attached to the tubes, hoods secured to said flue heads, cleaner bars fitted to the interior of said tubes and adapted to slide back and forth bringing the edges thereof in contact with the inner surfaces of the tubes, a U-shaped crank journaled in the ends of the hoods one end provided with a suitable crank by means of which said U-shaped crank is partially rotated bringing the sides and top thereof in contact with the ends and periphery of the hood.

2. In a radiator, the combination with a series of tubes, of flue heads connected to the tubes, hoods attached to the flue heads, cleaner bars fitted to slide back and forth in said tubes, suitable cranks journaled in the ends of the hoods and adapted to partially rotate therein bringing the top and sides thereof in contact with the inner surface of the hoods, a damper having suitable openings and notches provided therein, a bell crank connected to the damper whereby the damper may be reciprocated over the openings in the flue heads.

3. In a radiator composed of a series of tubes, flue heads connecting said tubes in a series, hoods secured to said flue heads in such a manner as to bring said series of tubes and hoods in communication with each other, cleaner bars having slots provided therein fitted to the interior of said tubes and adapted to be reciprocated therein, and contacting with the inner surfaces of the tubes, a U-shaped bar adapted to fit the slots of said cleaner bars and contact with the sides thereof, substantially as and for the purpose described.

4. In a tubular radiator, the combination with a perforated flue head, of a slotted damper plate controlling the draft in the tubes, a plurality of cleaner bars located in the tubes and passing through the slots in the damper plate, means for moving the damper plate independently of the cleaner bars and means for moving the bars independently of the damper plate.

5. In a tubular radiator, the combination with a slotted damper plate for controlling the draft, of a series of cleaner bars received in the tubes of the radiator, the ends of the bars received in and passing through the slots in the damper plate, means for moving the damper plate in one direction independently of the cleaner bars and means for moving the cleaner bars in a direction at right angles to the direction of movement of the damper plate and independently thereof.

6. The combination with a tubular radiator, of cleaner bars movably received within the tubes, a perforated damper plate adapted to regulate the draft and a second per-

forated plate superposed upon the damper plate the ends of the cleaner bars passing through the perforations in the damper plate and received in the perforations in the second-named plate and means for operating the second named plate to actuate the cleaner bars.

7. The combination with a tubular radiator, of cleaner bars movable within the tubes, slotted damper plates for regulating the draft through the radiator, the damper plates provided with slots for the reception of the ends of the cleaner bars, a perforated plate in the perforations of which the ends of the cleaner bars are received, and means for operating the perforated plate.

8. The combination with a tubular radiator, of a series of cleaner bars movably received in the tubes, means for reciprocating the bars and a series of scrapers secured within the tubes and adapted to engage the sides of the cleaner bars.

9. The combination with a tubular radiator, of a series of skeleton cleaner bars movably supported in the tubes, means for operating the bars, braces connecting the sides of the bars, and recessed scrapers secured in the tubes, the braces of the cleaner bars receivable in the recesses in the scrapers.

10. A radiator comprising a plurality of hoods, shouldered flue heads secured on the hoods, the shoulders surrounding the flue openings, tubes inclosing the shoulders and extending between the flue heads, shouldered cleaner bars movably received within the tubes, the shoulders on the cleaner bars resting against the shoulders on the flue heads and means for actuating the cleaner bars.

Signed at Mansfield, Ohio, this 3d day of March 1906.

FRED A. SCHLOSSER.

Witnesses:

JOHN H. COSS,
NELLIE CASEY.