No. 713,686. Patented Nov. 18, 1902.

E. S. REED.

REVOLVING HEATER.

(Application filed June 4, 1901.)

(No Model.)

Fig. 1.

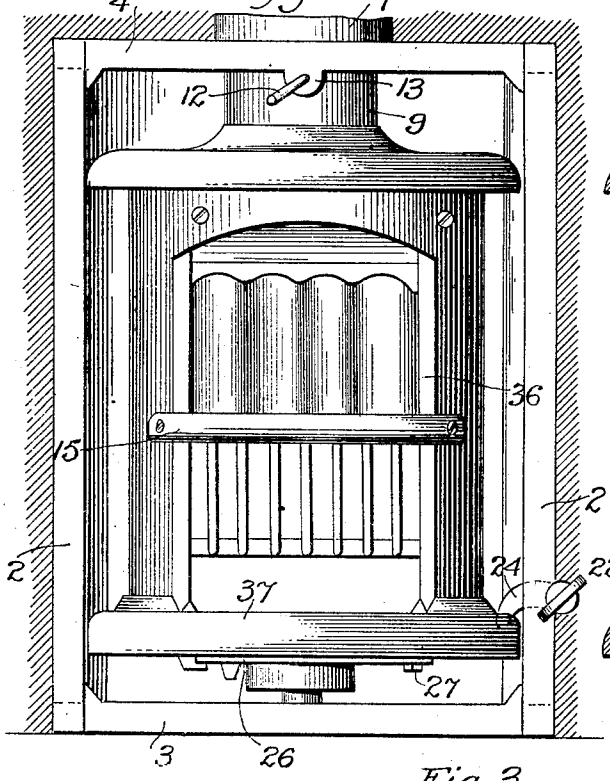


Fig. 2.

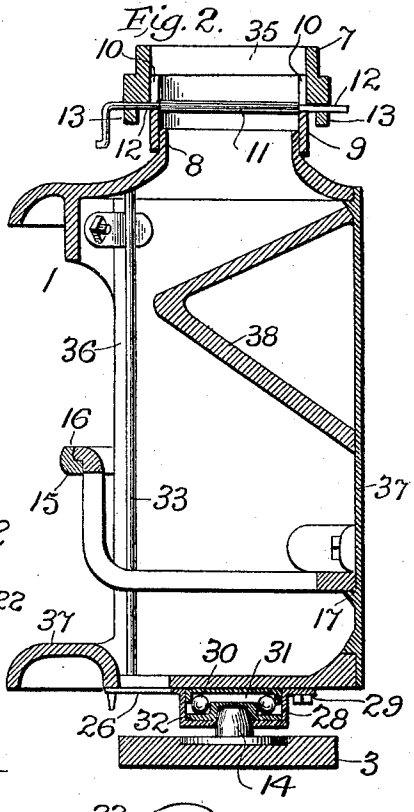


Fig. 3.

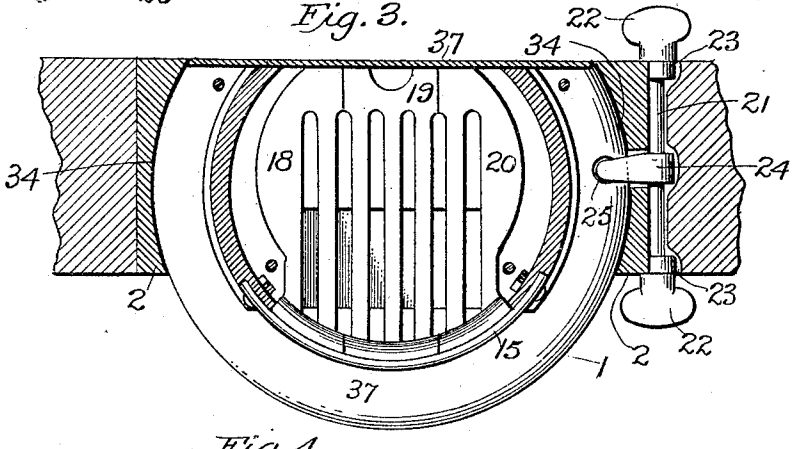
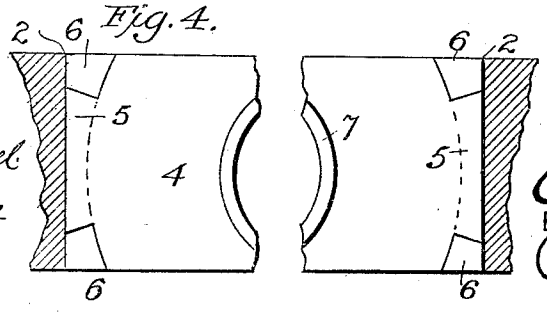


Fig. 4.



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UNITED STATES PATENT OFFICE.

ELI SAMUEL REED, OF HILL CITY, TENNESSEE.

REVOLVING HEATER.

SPECIFICATION forming part of Letters Patent No. 713,686, dated November 18, 1902.

Application filed June 4, 1901. Serial No. 63,081. (No model.)

To all whom it may concern:

Be it known that I, ELI SAMUEL REED, a citizen of the United States of America, and a resident of Hill City, county of Hamilton, State of Tennessee, have invented certain new and useful Improvements in Revolving Heaters, of which the following is a specification.

This invention relates to a revolving or adjustable furnace or other heater which is designed to be arranged in an opening in the wall or partition between rooms or apartments in such a manner as that it may heat both simultaneously and may be revolubly adjusted, so as to present the fire-front to either apartment, as may be desired.

The object of the invention, primarily, is to provide a heater by the use of which all the heat generated from the combustion of the coal can be saved, and thus economy will be subserved, for a larger room-space will be warmed from the same amount of coal than has heretofore been possible with heaters of other constructions.

The invention consists, essentially, in a revoluble stove or heater arranged to heat two or more rooms, apartments, or halls simultaneously in the manner specified herein and also in numerous details in the construction, arrangement, and combination of the various parts, substantially as will be hereinafter more fully described and claimed.

In the accompanying drawings, illustrating my invention, Figure 1 is a front elevation of the fire-carrying side of my improved heater. Fig. 2 is a vertical section of my improved heater. Fig. 3 is a cross-sectional plan view. Fig. 4 is a detail top plan view of the supporting-frame for the revolving heater, said frame being shown incompletely. Similar numerals of reference designate like parts throughout all the different figures of the drawings.

My improved revolving heater is adapted for use in connection with any kind of a wall or partition in any desired location, for it has a wide adaptation to different buildings. I employ in connection with it a rectangular metallic sectional frame, which is inserted into the partition at the desired point or around and upon which the partition is built, the smoke-flue being built upon the top of the frame, so that thereby a large saving of brick or masonry, estimated at one-third, is effected over that commonly used. The frame provides, as it were, a fireplace, but a fireplace using no brick, for the stove or revolving chamber containing the grate and the fire is supported within this frame in such a manner that it can turn, so as to expose its fire-front to one room or the other, as the case may be. Said metallic frame comprises the base-plate 3, the top plate 4, and the vertical side plates 2 2. The faces of the side plates 2 which are opposite to each other are preferably concave, as shown at 34 in Fig. 3, in order that the cylindrical form of the stove-barrel may fit more neatly thereinto than if said faces 34 were flat. The side pieces 2 and the top and bottom pieces 3 and 4 are dovetailed together, this being a preferable kind of quickly-secured, economical, and strong connection, an example of it being represented in Fig. 4, where the top plate 4 is seen as having the dovetailing tongues 5, that engage in the grooves between the lugs 6 on the upper ends of side plates 2. At the center of the top plate 4 is an opening 35, surrounded by an upwardly-projecting sleeve 7, which permits the attachment thereto of the smoke-flue. At the center of the bottom plate 3 is an upwardly-projecting and suitably shaped and attached pivot-pin 14, on which the revolving stove is permitted to swing in making its rotations, as will be hereinafter more fully explained.

The stove or heater proper is designated by the reference-numeral 1. It consists, so far as its general form is concerned, of any desired kind of upright combustion-chamber, preferably of a cylindrical or barrel-like pattern and adapted to permit the arrangement therein of a grate, to which the fuel may be fed through a feed-door or opening 36. Below the grate, at the front, the stove may have a fender 37. While this stove has a general cylindrical structure, as stated, yet it is not completely cylindrical, for the back thereof is flattened, so as to provide a plain face 37, which is straight and even throughout and of proper size and shape to fit within the frame-opening on the one side or the other and lie

flush with the wall of one room or the other, as the case may be. The flush position of this rear face 37 of the heater with one of the walls is illustrated in Fig. 3, and this face furnishes to the room to which it may be exposed a filling-plate which partially or wholly fills the gap in the wall made by the stove-frame and provides what may be termed the "summer-front" of the stove or what would ordinarily be the summer-front of a fireplace after the stove has been removed in the spring.

The upper end of the stove 1 is provided with a cylindrical neck 8.

9 denotes a sleeve, which surrounds the neck 8 and projects into the flue-opening 35 inside of the ring 7. When the stove 1 is being placed in position within the rectangular frame, the sleeve 9 will be pushed up into the opening 35 and held there temporarily and the stove itself lifted upward sufficiently to enable its bearing at the base to be located upon the pivot-pin 14, and after this location has been effected the sleeve 9 can be dropped down over the stove-neck and securely fixed in position, the latter being brought about by the use of the damper 11, having a rod 12, provided at one or both ends with a handle, said rod being passed through perforated lugs 13 on each edge of the top plate 4 and also through slots 10 10, cut in the periphery of the sleeve 9. After the sleeve has been dropped down upon the neck 8 and the rod 12 has been passed through the lugs 13, the slots 10, and the damper 11 the parts will be connected together firmly and in such a manner as not to permit of any dislocation of the stove.

The bearing at the base of the stove upon the central pivot-pin 14 is a ball-bearing. The ball-bearing case 28, which is centrally perforated for the passage through it of the pivot 14, is bolted to the under side of the stove by means of bolts 29. Within case 28 is an upper ball-bearing plate 31 and a lower ball-bearing plate 32, between which two plates are the balls 30. The lower ball-bearing plate 32 has a central tapering recess, which receives the tapering portion of the pivot-pin 14, and said plate 32 is held by friction upon the pin 14, while the upper plate 31, the balls 30, and the case 28 revolve with the stove when the latter is rotated.

It is a well-known fact in the use of stoves that the middle of a grate burns out before the sides. Hence I have so constructed my grate as to make it possible to replace the middle without disturbing the other parts, and this is accomplished by making the grate in three parts—a central section and two side sections.

19 denotes the middle section, and 18 and 20 the side sections. The grate-sections rest at their rear end upon the horizontal flange or seat 17 on the inside of the stove at its rear, while the front ends are supported upon a shoulder or rabbet 16, shaped or formed in the front guard-rail 15, which is secured at its ends to the stove-barrel 1, as is clearly indicated in Figs. 1 and 2.

33 designates vertical stay-rods used to hold the parts of the stove firmly together.

Inside of the interior chamber of the stove-barrel 1 is a heat-deflector 38, by means of which the heat arising from the combustion of the fuel upon the grate is thrown out through the front opening 36 into the room or apartment, while the smoke, gas, and other products of combustion pass upward over the front point of the deflector 38 and are carried away through the stove-neck 8, opening 35, and the attached smoke-flue. It is preferred sometimes to remove the ashes of a stove from the bottom thereof, and consequently I have supplied the bottom of the stove-cylinder 1 with a door 26 directly beneath the ash-pit, and by sliding or swinging said door 26 upon its pivot 27 it can be opened and the ashes easily removed at that point, thereby getting rid of a large amount of dust which might otherwise fill the room if the ashes had to be taken out above.

I provide means for locking the stove in a position where its fire-front will be exposed to one room or in a position where it will be in the other room, said means consisting, essentially, of a shaft 21, supported in lugs 23 23, cast on one of the upright side plates 2, said rod 21 carrying thumb-pieces or handles 22 22 at each end, which can easily be manipulated for the purpose of rotating the rod 21 in its bearings. This rod carries at its center a hook or curved arm or dog 24, which is adapted to engage a perforation or opening 25 in the bottom plate or ring-fender 37. Of course, if desired, this dog 24 may be arranged to engage some other part of the stove; but it is designed to serve as a lock for the purpose of securing the stove in one position or the other. When the user wishes to rotate the stove, he needs only to lay hold of the thumb-piece or handle 22, thus disengaging the locking-lug from the stove and setting the latter free, when it can be easily pushed with the hand or foot so as to swing it around and carry the fire-front into one apartment and the summer-front to the other apartment, or vice versa, as may be preferred.

Many changes in the precise construction, combination, and arrangement of the parts may be made without varying from the invention herein shown and described.

Having thus described my invention, what I claim as new, and desire to secure by Letters Patent, is—

In a heater, the combination with a frame consisting of dovetailed uprights and cross-pieces, and having a central upper opening, of a heater mounted therein and capable of revolving so as to expose its fire-front on one side or the other, said heater having a cylin-

drical neck, a sleeve surrounding said neck and projecting into the central opening, said sleeve being slotted and susceptible of adjustment when the heater is being placed in position, a damper whose rod enters the slots in the sleeves, and a basal pivot on which the heater rotates.

Signed at Chattanooga, Tennessee, this 31st day of May, 1901.

ELI SAMUEL REED.

Witnesses:
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