

No. 654,912.

Patented July 31, 1900.

C. J. MURPHY.
GAS SCREEN.

(Application filed Dec. 23, 1899.)

(No Model.)

Fig. 1.

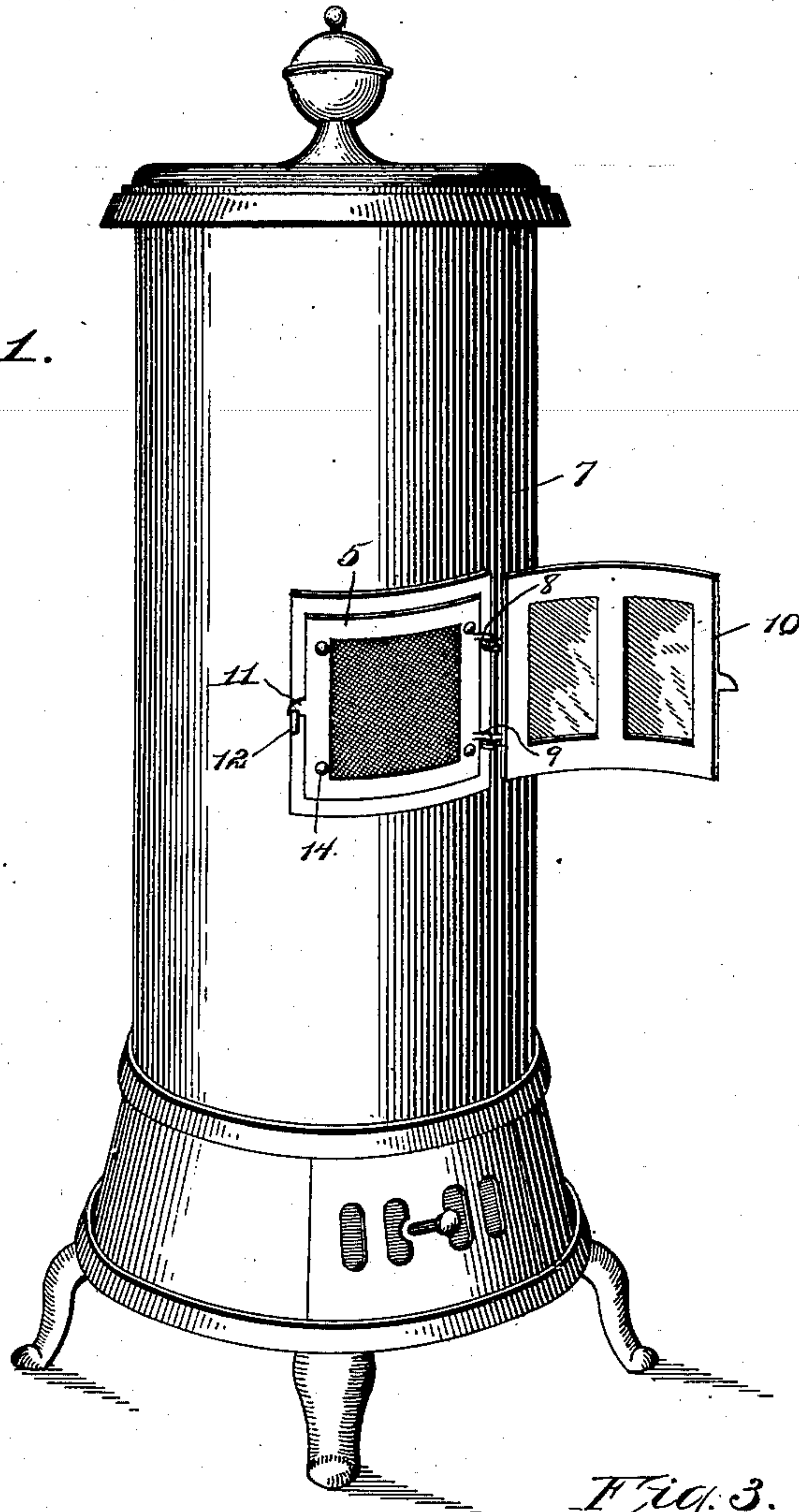


Fig. 2.

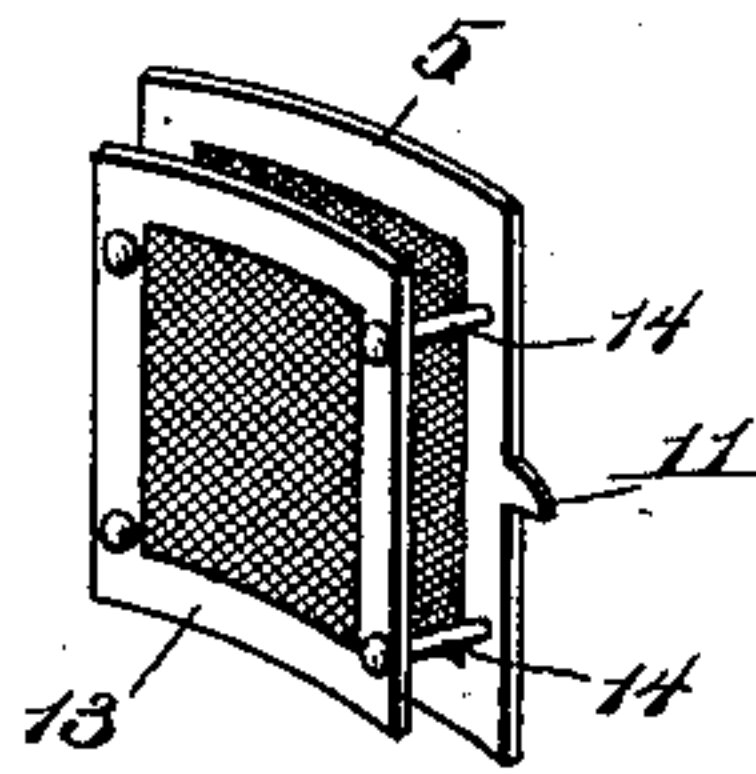
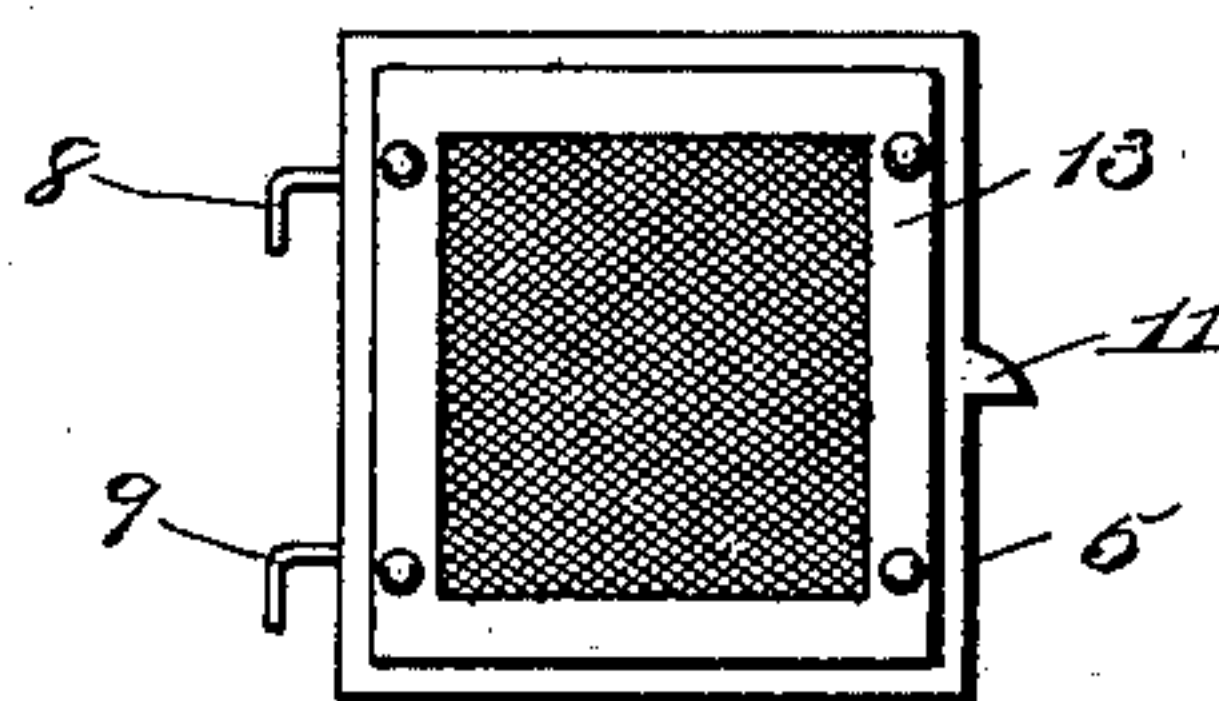


Fig. 3.



Witnesses
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UNITED STATES PATENT OFFICE.

CHARLES J. MURPHY, OF ANNAPOLIS, MARYLAND.

GAS-SCREEN.

SPECIFICATION forming part of Letters Patent No. 654,912, dated July 31, 1900.

Application filed December 23, 1899. Serial No. 741,452. (No model.)

To all whom it may concern:

Be it known that I, CHARLES J. MURPHY, a citizen of the United States, residing at Annapolis, in the county of Anne Arundel and State of Maryland, have invented certain new and useful Improvements in Gas-Screens, of which the following is a specification.

My invention relates to the general class of heating-stoves; and the object thereof is to provide a gas-screen adapted to close the opening of a heating-stove through which the fuel is generally introduced, so that the gas resulting from the combustion of the fuel will be prevented from entering the room; but cool air will be admitted into the combustion-chamber or "fire-pot" to retard a complete combustion of the fuel, as will be presently explained.

As is well known, when the door adjacent the fire-pot is closed a more perfect draft is introduced through the fuel than when it is open. Recognizing this fact, it is the usual practice to leave the above-referred-to door open for predetermined periods, such as during the hours of slumber or when it is not desirable to have the room heated. As a result the cool air passing over the coal and up through the flues retards the combustion, and a saving of the coal is thus effected. However, in actual practice it has been found that upon replenishing the supply of fuel a certain amount of gas is given off by the coal, which has a tendency to find its way into the room with the obvious disadvantages. The air entering the space between the two wire-gauzes becomes heated and subdivided into numerous minute jets corresponding with the meshes in the inner gauze. These jets intermingle with the smoke and gases arising from the fuel and diffuse oxygen therethrough, thus igniting and consuming the gases before they escape to the smoke-pipe. By the use of my invention I obtain a twofold advantage—the combustion of the fuel is retarded, and the gas is confined within the stove or passes off through the chimney.

In order to clearly understand the construction and operation of my invention, reference should be had to the accompanying drawings, in which—

Figure 1 is a perspective view of a stove of preferred form, showing my invention at-

tached. Fig. 2 is a perspective view of the screen detached from the stove, and Fig. 3 is a rear elevation of the same.

Referring now specifically to the several parts by reference-numerals, 5 indicates a metal frame of approximately the size and shape of opening of the stove 7. Secured to this frame is a wire mesh of suitable fineness, while to one edge of the frame are hooks 8 and 9, adapted to fit over the hinges of the door 10, and from the opposite edge projects a lug or bolt 11 to engage with the latch-strike 12, whereby the screen is held in place. The portion above described is secured on the outside of the stove, and a second member 13 is secured to the frame 5 and spaced apart therefrom by bolts 14. The second member also consists of a frame and mesh similar to the one already described, but rests inside the stove. By this arrangement the stove can be replenished with fuel just before retiring, and the circulation of air between the two wire-gauzes will confine the gas to the interior of the stove and at the same time permit a free circulation of cool air to pass over the bed of coal in the fire-pot to retard the combustion of the fuel to the desired degree and carry the obnoxious gas off through the chimney along with the products of combustion. As soon as it is found desirable to accelerate the action of the fire it is obvious that the screen can be removed and the door closed, when the draft will pass through the coals from below the grate, as above described, and with the obvious resulting effect.

What I claim as my invention, and desire to secure by Letters Patent, is—

In a gas-screen for stoves, the combination with a substantially-rectangular frame and a wire mesh carried thereby, of hooks on one edge of said frame adapted to fit over the hinges of the stove-door to detachably secure the screen in place, a second parallel frame and mesh secured to and carried by the first-mentioned frame and adapted to rest within the stove substantially as described.

In testimony whereof I affix my signature in presence of two witnesses.

CHARLES J. MURPHY.

Witnesses:

E. CLAYTON,
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