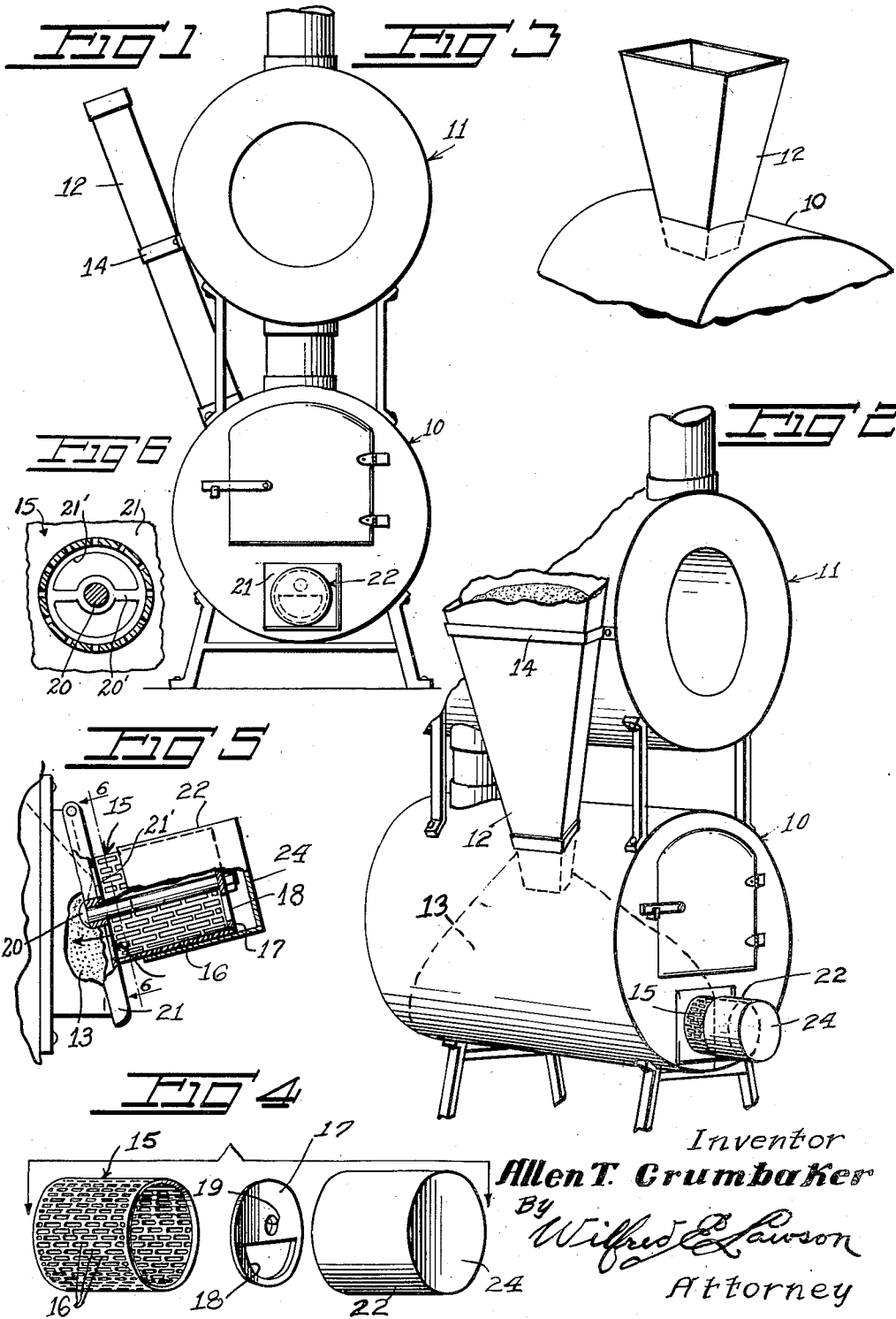


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 ASHPIT DOOR CARRIED DRAFT REGULATOR  
 FOR GRANULAR FUEL BURNING STOVES  
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## UNITED STATES PATENT OFFICE

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## ASH PIT DOOR CARRIED DRAFT REGULATOR FOR GRANULAR FUEL BURNING STOVES

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1 Claim. (Cl. 110—175)

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My invention relates to a hopper for continuously feeding fuel in dust forms to a stove or furnace, and regulating the draft to obtain complete combustion therein. This hopper and regulating system is constructed in the shape of an adapter for attachment to the furnace and is of such form that it can feed any kind of cheap fuel, such as sawdust or coal dust, without aid of special grates and requiring no changes in the furnaces.

It allows of easy access for cleaning out ashes.

By this means any type of stove or furnace can be converted to burn cheap fuel without danger of explosion, particularly as all grates are eliminated.

These and other objects and advantages will be understood from the subjoined description with the aid of the attached drawing.

Like numerals denote the same details in the different views of the drawing, wherein:

Figure 1 is a front elevation of a conventional stove with my hopper and draft regulator in position;

Figure 2 is a perspective view of Figure 1;

Figure 3 is a perspective view of one form of the hopper;

Figure 4 is an exploded perspective view of the cylindrical draft regulator;

Figure 5 is an elevational view of the draft regulator assembled on the ash pit door.

Figure 6 is a sectional view taken substantially on the line 6—6 of Figure 5.

In the drawing, numeral 10 denotes a cylindrical fire box or drum stove below and an air heater 11 thereabove of a conventional stove or furnace with suitable conduits.

On one side of the fire box 10 is erected a metal hopper or funnel 12 for fuel in dust form, which opens through the sheet metal wall of, and into, the drum. This funnel is set at a slight inclination, so as to deposit fuel in a pile 13 on the bottom of the fire box 10 which is without grates of any kind.

The hopper 12, made of metal, may be of any suitable size and shape, such as an inverted cone or a pyramid, shown in Figure 3, as best suited to the particular type of stove or furnace, on which it is applied to form a unit with the latter and secured by welding or any other suitable means, as, for example, the metal strap 14, Figures 1 and 2.

As sawdust or other cheap fuel is supplied from the hopper, air is admitted to the stove body at its front end through a cylindrical draft regulator 15, mounted on the outer side of a lower

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hinged ash pit door 21, and the sawdust will be distributed as seen in Figures 2 and 5 so that the inflowing air will pass over the surface of the sawdust to maintain the desired combustion.

This regulator consists of a hollow metal cylinder 15 with its side wall perforated by slots or drilled holes as at 16. This cylinder is open ended, but provided with a cover plate 17 at its outer end, which has a semi-circular cut 18 in its lower half for removal of ashes and a central hole 19 for receiving the outer end of a securing bolt 20 and nut. The head of the bolt 20 engages behind a bar 20' which extends diametrically across a circular opening 21' formed in the door, the bolt passing through the center of the bar as shown in Figure 5.

The third member of this regulator unit consists of an outer hollow cylindrical sleeve of the same length as the perforated cylinder 15 and adapted to slide over the outer surface of the latter, the outer end of the sleeve or can 22 being closed as at 24. By means of this regulator it is now possible to control, to a nicety, the amount of draft or supply of combustion air for the fuel, which air enters into the combustion chamber by way of the apertures 16 which are left open by the sleeve 22.

The half-moon opening on the lower side of the cover plate 18 is intended for removal of ashes as they collect in the regulator cylinder 15; the sleeve or can 22 having been first removed.

When in the claims the term "furnace" is used, the same is intended to cover any other heating plant such as stoves and the like for heating a fuel medium.

It is to be understood that the invention as herein disclosed may be varied from the details described and shown without departure from the spirit of the subjoined claim.

I claim:

In combination, a stove ash door, the door having a circular opening centered therein and a draft regulator, said regulator comprising an open ended cylindrical member having one end secured to the door about said opening, said member being longitudinally and circumferentially perforated, a circular plate having a cut-out of segmental form formed therein below an aperture formed in its center, a centrally apertured bar fixed to the door and extending diametrically across said circular opening, a bolt engaged in the said plate and the bar apertures to retain said plate within the outer end of said member, and a cap closure slidably engaged on

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said member to regulate the admission of air through the perforations of said member to the interior of the stove, said cutout allowing for the removal of ash accumulations within said member upon the removal of the cap closure from the latter.

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