March 19, 1929. H. SYDOW 1,705,548

FURNACE STOKER

Filed March 28, 1928

Fig. 1.

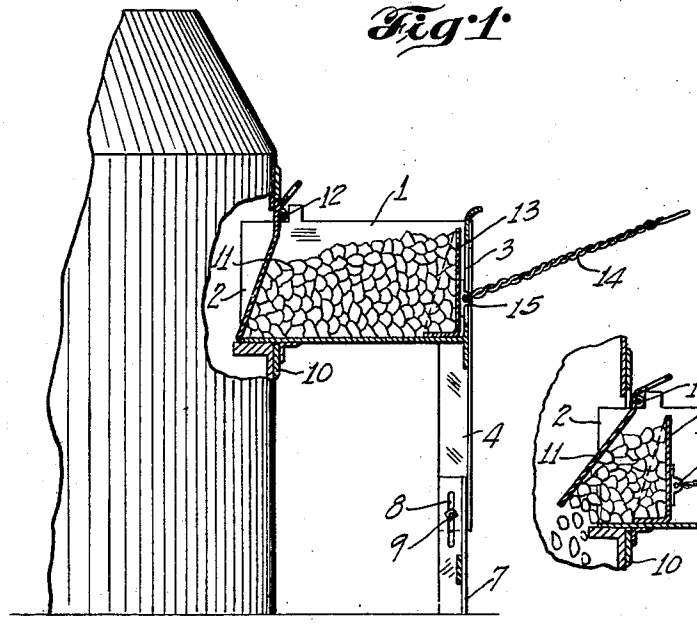


Fig. 2.

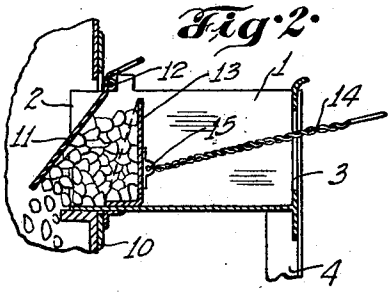
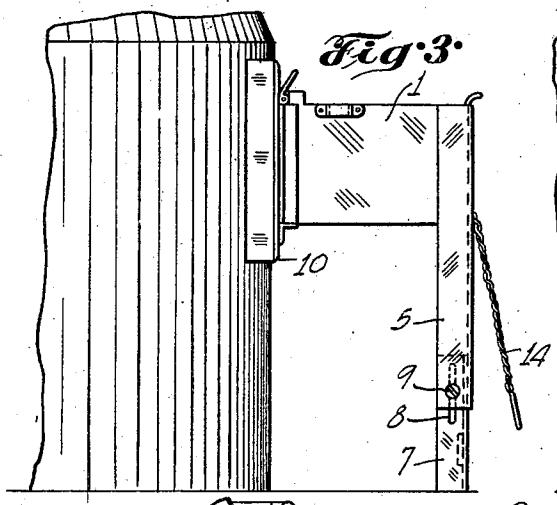


Fig. 3.



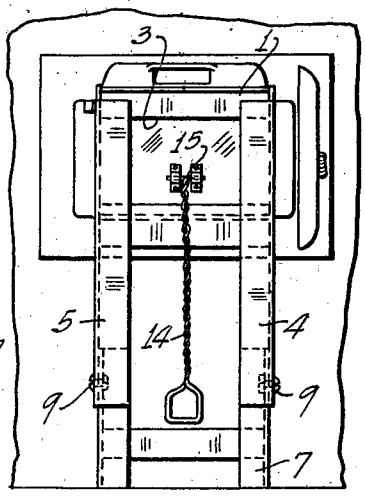
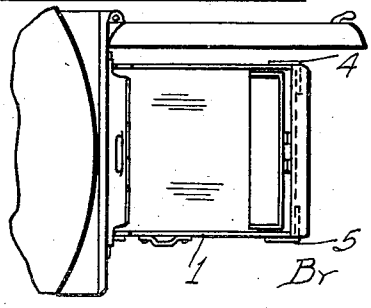


Fig. 4.

Fig. 5.



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UNITED STATES PATENT OFFICE.

HERMANN SYDOW, OF ST. LOUIS, MISSOURI.

FURNACE STOKER.

Application filed March 28, 1928. Serial No. 265,376.

My invention relates to stokers, and especially to stokers used with domestic furnaces.

The primary object of my invention is to provide a stoker that will discharge fuel into the front part of the fire.

Another object of my invention is to provide a stoker that can be filled with a sufficient amount of fuel to last for a day or so, so that when it is necessary to replenish the fire, it can be done with the greatest ease and certainty, by even an unexperienced person, without permitting the emission of smoke through the furnace door.

Other objects and advantages of my invention will be disclosed in the specification, claim and drawings, in which:

Fig. 1 is a longitudinal section of a part of a furnace, showing my stoker attached and the stoker bin filled with coal.

Fig. 2 is a like view, showing the coal being discharged into the front part of the fire.

Fig. 3 is a side elevation of a stoker attached to the furnace.

Fig. 4 is an end elevation of a stoker attached to the furnace.

Fig. 5 is a plan view, showing a broken portion of a furnace with my stoker attached and the furnace door open.

In cities where bituminous coal is chiefly used for domestic heating purposes, smoke abatement leagues are organized to teach the people the best mode of firing a furnace to prevent smoke, and one of the chief instructions that is insisted upon is that the raw coal be fed into the front part of the furnace, the live coals being pushed to the back of the furnace.

In order that the instructions of the smoke abatement committees can be more certainly and more easily carried out, I have devised a stoker which makes it practically impossible to discharge the coal over the entire surface of the fire and insures it being deposited in the front part of the furnace.

Without the proper adjustment of the drafts on the modern domestic furnace, when the fuel door is opened to replenish the fire, a large volume of smoke is emitted through the open door, and to overcome this objection my stoker is provided with an automatic door or curtain which closes the opening into the furnace at all times.

The preferred form of my stoker consists of a fuel hopper 1 made of suitable sheet metal, closed on two sides, open at its inner end 2 and partly open at its outer end 3. The fuel hopper 1 is supported at adjustable heights, to suit different types of furnaces, by two legs 4 and 5, preferably made of angle iron, each with an extension 7 of the same material, provided with a slot 8 to engage a bolt 9 for the purpose of adjusting the length of the legs to the height of the furnace.

The inner end 2 of the stoker is provided with a downwardly turned flange 10 which regulates the depth the stoker is inserted through the furnace door.

A curtain 11 is pivotally joined to the body of the stoker at 12 and completely fills the fuel opening into the furnace, so that when the stoker hopper becomes empty, the curtain 11 performs the same function as a furnace door; and as the coal is being forced into the furnace, the curtain 11 prevents egress of smoke from the furnace.

A slidable shovel 13, of rectangular cross-section, adapted to fit loosely within the hopper of the stoker, is provided with a handle 14 pivotally joined at 15, so that when the shovel is withdrawn to its outward limit, the handle drops down out of the way as shown in Fig. 4.

It is obvious that if the hopper is filled with coal in the morning, a woman or child inexperienced in firing a furnace can operate my stoker by simply pushing the shovel 13 towards the furnace discharging the coal into the front part of the fire, without any emission of smoke and with no attention whatever to the drafts.

Another incidental advantage of my construction is that during the summer months the stoker may be removed to a place of safety and convenience.

Having fully described my invention, what I claim as new and useful and desire to protect by Letters Patent is:—

A furnace stoker of the class described, consisting of a rectangular fuel hopper having a closed bottom and vertical side walls, an open top and an open inner end, a swing-

able metal door pivotally attached to said vertical side walls adapted to automatically close the door opening, a slidable shovel adapted to loosely fit within said fuel hopper, a handle pivotally attached to said slidable shovel, adjustable legs adapted to support the outer end of said stoker on a level with the door of a furnace, means for preventing the insertion of said hopper too far into a furnace.

In witness whereof I have hereunto affixed my signature this 19th day of March, 1928.

HERMANN SYDOW.