

(No Model.)

G. H. COLTON.
FUEL FEEDING DEVICE.

No. 475,203.

Patented May 17, 1892.

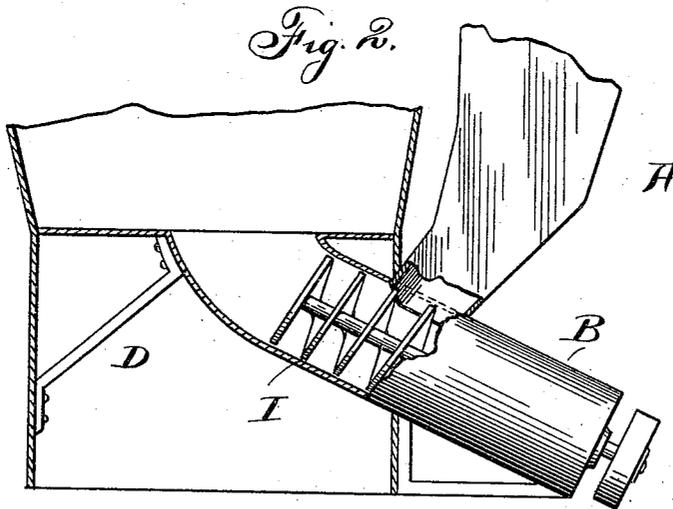
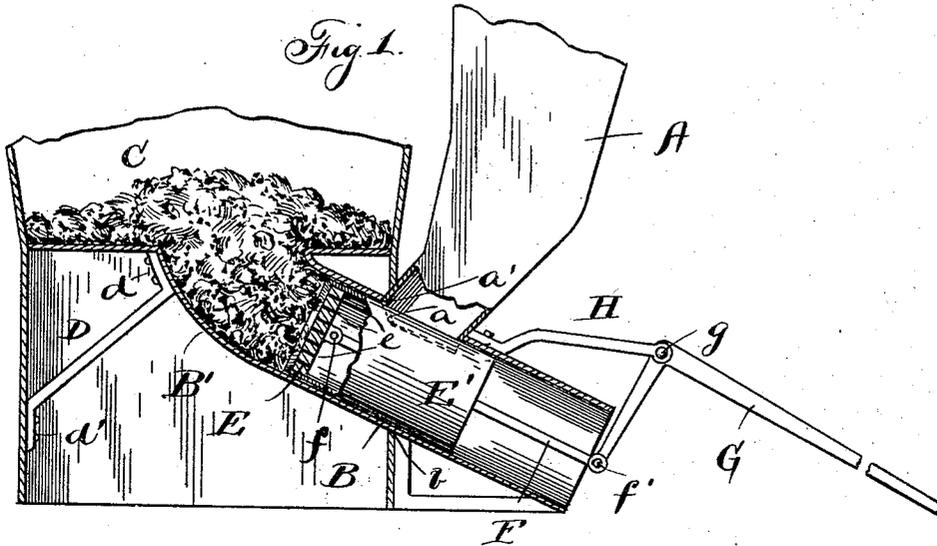
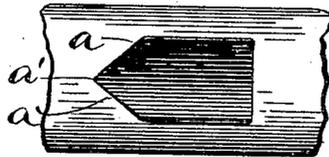


Fig. 3.



Witnesses
E. Byron Gilchrist.
[Signature]

Inventor
George H. Colton
[Signature]
Attorneys

UNITED STATES PATENT OFFICE.

GEORGE H. COLTON, OF HIRAM, OHIO.

FUEL-FEEDING DEVICE.

SPECIFICATION forming part of Letters Patent No. 475,203, dated May 17, 1892.

Application filed December 26, 1891. Serial No. 416,145. (No model.)

To all whom it may concern:

Be it known that I, GEORGE H. COLTON, of Hiram, in the county of Portage and State of Ohio, have invented certain new and useful Improvements in Fuel-Feeding Devices; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it pertains to make and use the same.

My invention relates to improvements in fuel-feeders for stoves, grates, and furnaces; and it consists more especially in devices comprising a hopper located at the side of the stove, grate, or furnace and discharging into a magazine that in turn discharges from below into the fuel-chamber of the stove, grate, or furnace, in combination with suitable means located in said magazine for conveying the fuel from the hopper aforesaid to the fuel-chamber of the stove, grate, or furnace, the object being in supplying fuel to the fire to avoid smothering or dampening of the fire, to prevent the evolution and escape of the unburned gases, and to interrupt the formation of clinkers.

My invention also consists in certain features of construction and in combination of parts hereinafter described, and pointed out in the claims.

In the accompanying drawings, Figure 1 is a central vertical section, partly in elevation, of devices embodying my invention. Fig. 2 shows a somewhat modified construction. Fig. 3 shows a detail hereinafter referred to.

A represents a hopper containing the fuel. Hopper A is located at the side of the stove, grate, or furnace and discharges into a magazine B, that is located below and inclines and discharges upward into the fuel-chamber of the stove, grate, or furnace C, preferably at the central portion of the chamber, magazine B being preferably somewhat flaring toward its discharging end, as at B', to facilitate the egress of the fuel. Magazine B is supported in any suitable manner, preferably by the surrounding wall of the stove or furnace, as at b, and by a brace, as at D, the latter being secured at one end to the magazine, as at d, and at the other end to the surrounding wall of the stove or furnace, as at d'. Magazine B in the main is preferably cylindrical in cross-

section and has operatively located within it a piston E, that is provided with a tube or trunk E', the piston and its trunk fitting snugly but loosely within the magazine.

F represents a link or rod that at one end is pivotally secured to the piston, as at f, and at its other end is pivotally connected with the short or weight arm of a bent lever G, as at f'. Lever G is fulcrumed to any suitable rigid support—for instance, as at g, to a bracket or arm H, rigidly secured to magazine B—and the power-arm of lever G is of course of sufficient length to give the desired leverage.

In operating the device the operator takes hold of the power-arm of lever G and elevates the same, thus causing piston E to recede and permitting hopper A to discharge a quantity of fuel into the magazine. The operator then actuates lever G to advance the piston, the latter again closing the discharging end of hopper A and causing the fuel-chamber of the stove or furnace to be charged with a fresh supply of fuel, and magazine B discharging preferably into the central portion of the fuel-chamber, the clinkers that have formed and accumulated at said portion of the fuel-chamber will be elevated and turned or cast to the side of the chamber, where they are less objectionable and readily accessible for removal, and the formation of clinkers is greatly impeded, being interrupted by every fresh supply of fuel. Piston E is preferably provided with perforations, as at e, for the admission of air to the fuel in the fuel-chamber of the stove, grate, or furnace, and piston E has also preferably an inwardly or forwardly projecting sharp or pointed flange, as at e', extending, preferably, at least the width of the discharging-opening of the fuel-hopper. The discharge or eduction opening of hopper A at the forward side is preferably reduced and tapers to a point, or approximately so, forming inclines, as at a, that as the piston advances will facilitate the displacement of any lumps or pieces of fuel that may project into the magazine and flange e of the piston, assisted by point or corner a', formed by the peculiar construction of discharging-opening of hopper A aforesaid, will cut or break any projecting fuel that may offer resistance to the advance of the piston.

It will readily be observed that by my improved construction there is no smothering or dampening of the fire, and consequently no escape of unburned gases by the supply of fuel to the stove, grate, or furnace. Hence a great saving in fuel is effected and the heating function of the stove, grate, or furnace is not interfered with.

Although the construction shown in Fig. 1 of the drawings is very effective, exceedingly simple, and consequently comparatively inexpensive, I would have it understood that my invention is not confined to the details of construction. For instance, I have in Fig. 2 of the drawings shown a modification of the mechanism for feeding the fuel from the fuel-hopper to the fuel-chamber of the stove, grate, or furnace, which modified construction would answer the purpose well, the same comprising an ordinary screw conveyer I.

What I claim is—

1. In a fuel-feeding device for a stove, grate, or furnace, the combination, with the fuel-chamber of the stove, grate, or furnace, of a magazine discharging upward into said fuel-chamber, a fuel-hopper adapted to discharge fuel into said magazine, and suitable mechanism located within the magazine and adapted to feed the fuel into the fuel-chamber of the stove, grate, or furnace, the discharging-opening of the fuel-hopper being gradually reduced or tapering at the forward side, substantially as and for the purpose set forth.

2. In a fuel-feeding device for a stove, grate, or furnace, the combination, with the fuel-chamber of the stove, grate, or furnace, of an inclined magazine discharging upward into said fuel-chamber, a fuel-hopper adapted to discharge fuel into said magazine, and suitable mechanism located within the magazine and adapted to feed the fuel into the fuel-chamber of the stove, grate, or furnace, the discharging-opening of the fuel-hopper being gradually reduced or tapering to a point at the forward side, as at *a a'*, substantially as and for the purpose set forth.

3. In a fuel-feeding device for a stove, grate, or furnace, the combination, with the fuel-chamber of the stove, grate, or furnace, of a magazine discharging upward into the bottom of said fuel-chamber, a fuel-hopper adapted to discharge fuel into said magazine, and suitable mechanism comprising a piston provided with a tube or trunk adapted to close or open the discharging-opening of the hopper, said piston being adapted to feed fuel to the fuel-chamber of the stove, grate, or furnace and being provided with perforations, as at *e*, substantially as and for the purpose set forth.

In testimony whereof I sign this specification, in the presence of two witnesses, this 16th day of November, 1891.

GEORGE H. COLTON.

Witnesses:

C. H. DORER,
S. G. NOTTINGHAM.