D. SMITH.

Fuel Cut-Off for Magazine-Stove.

No. 167,201. Patented Aug. 31, 1875.

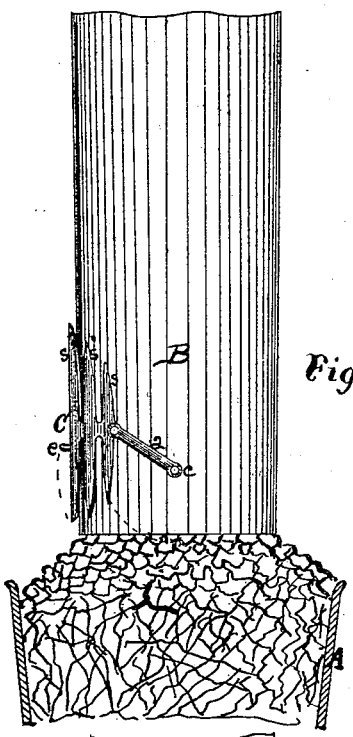

Fig. 1.

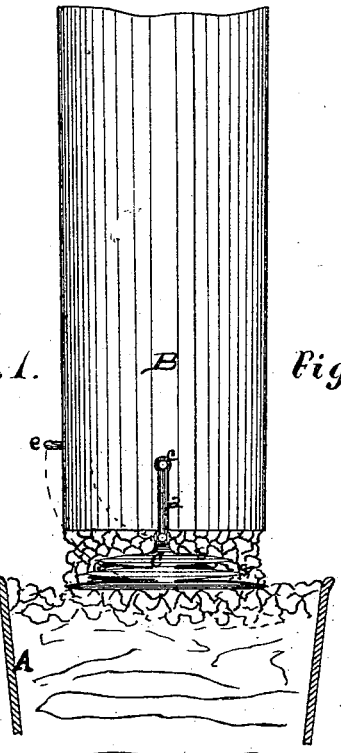

Fig. 2.

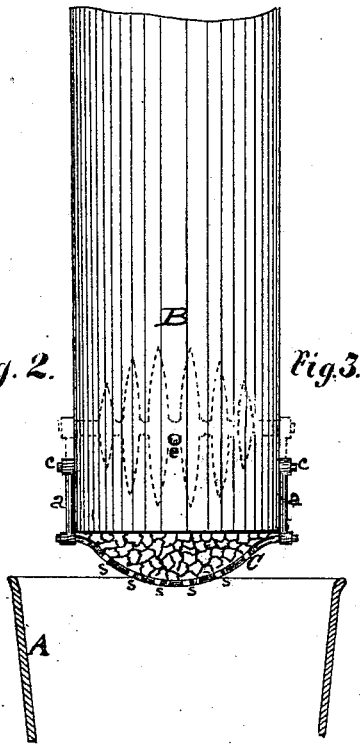

Fig. 3.

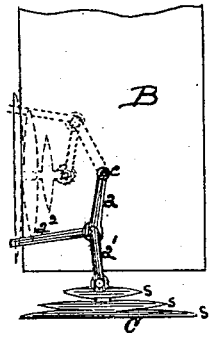

Fig. 4.

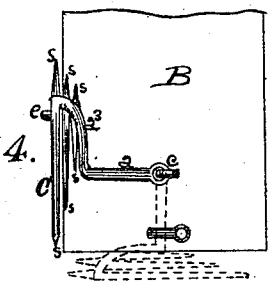

Fig. 5.

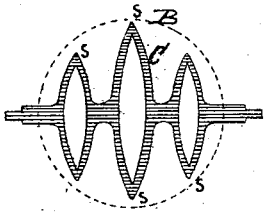

Fig. 6.

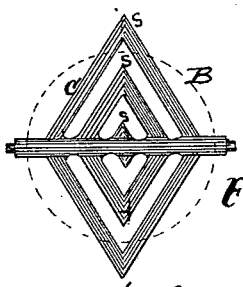

Fig. 7.

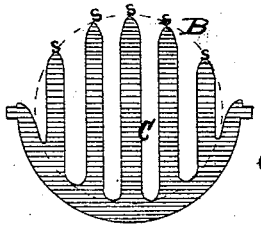

Fig. 8.

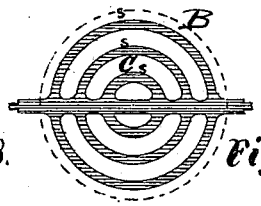

Fig. 9.

Witnesses. { Geo. A. Thompson, Alex. Selkirk

David Smith

Inventor

UNITED STATES PATENT OFFICE.

DAVID SMITH, OF ALBANY, NEW YORK.

IMPROVEMENT IN FUEL CUT-OFFS FOR MAGAZINE-STOVES.

Specification forming part of Letters Patent No. **167,201**, dated August 31, 1875; application filed May 21, 1874.

To all whom it may concern:

Be it known that I, DAVID SMITH, of the city and county of Albany, State of New York, have invented certain new and useful Improvements in Fuel Cut-Offs for Magazine-Stoves; and I do hereby declare that the following is a description thereof, reference being had to the accompanying drawings forming a part of this specification, in which—

Figure 1 represents a side elevation of a fuel-magazine with the improvements in this invention applied, illustrating the cut-off raised and out of use on the side of the magazine. Fig. 2 represents the same with the cut-off in position for use below the discharge end of the magazine. Fig. 3 represents the same in a transverse view. Figs. 4 and 5 represent modifications of the mode of suspending the cut-off. Figs. 6, 7, 8 and 9 are modifications of the forms of cut-off that may be used with this invention.

My invention relates to the combination of a suspended and swinging cut-off with the fuel-magazine of a stove or furnace in such a manner that the said cut-off will be at all times connected with the said magazine, and be capable of being swung up and secured to the side of the same, free from contact with the fire-pot or fuel, and also of being cast down beneath the discharge end of the magazine to intervene between the same and the fuel in the fire-pot, so as to be beneath the column of coal within the magazine, to prevent the same from falling down while the contents of the fire-pot are being removed.

To enable others skilled in the art to make and use my invention I will proceed to describe it in reference to the drawings and the letters of reference marked thereon.

In the drawings, A represents the fire-pot of a stove or furnace. B is the fuel-magazine. C is the cut-off, made with tines, fingers, or points *s s*, as in Figs. 1, 3, 4, 6, 7, and 8, or circular, as in Fig. 9, or with any form other than one with a straight line of edge for entering the mass of fuel. If made with a diamond form, as in Fig. 7, or circular form, as in Fig. 9, I would prefer to make their bodies with open work, as shown, for economy in metal, though they may be made solid. Any of the said forms referred to will operate well to readily enter the mass of fuel without receiving any impediment from the larger pieces of coal with which the instrument may come in contact as it is being thrust through the same. In this invention I connect the said cut-off with the magazine B by the arms *a a*, pivoted in any known manner to the magazine from the sides thereof, and at points *c c*, as shown. The said arms may also be pivoted to the cut-off, as in Figs. 1, 2, and 3, when the cut-off will be free to be swung up, as indicated by dotted lines in Fig. 1, and secured against the side of the magazine, as shown by full lines in said figure and dotted lines in Fig. 3, by the pin or projection *e* projecting from the front of the magazine and entering between the fingers or into any orifice made in the cut-off, in which position it is intended the cut-off will remain until it is required for operation, when, by throwing it off the projection *e*, the said cut-off may be cast down and swung beneath the discharge end of the magazine, as shown in Fig. 2, to enter the mass of fuel in the fire-pot, immediately below the said discharge end, and thereby separate the mass of fuel in the magazine from the mass of fuel and refuse in the lower portion of the fire-pot to permit the removal of the contents of the fire-pot below the cut-off thus suspended, as shown in Fig. 3. When thus suspended below the discharge end of the magazine the said cut-off will prevent its contents from falling down, when a new fire may be kindled in the fire-pot, and again be charged with fresh coals by the cut-off being swung up, as indicated by dotted lines in Fig. 2, and secured, as before described, against the side of the magazine, as in Figs. 1 and 3. If desired, the arms *a* may be pivoted to a sort of bail or supplementary arm, a^1, having a breast-strap, a^2, bending to the curvature of the magazine and suspending the cut-off from the joint or pivot *c*, as in Fig. 4, when the same results would be secured as in the manner of suspension shown in Fig. 1. Another modification of the mode of suspension is shown in Fig. 5, in which the arm *a* is pivoted to the staple *c*, and connects with the cut-off in rigid manner, as shown, the said rigid arm made with the bent finger-piece a^3, which is bent with a curve to conform with the curvature of the magazine when up, and

has made rigid with it the fingers or points *s s*, as shown. Made thus with the suspended arm *a* rigid with the bent finger-piece a^3, the cut-off may be suspended from both sides on the magazine from points opposite each other, or may be made with a single arm, *a*, provided a catching-lip, *e*, is employed to crowd the said arm close to the side of the magazine, when the cut-off is beneath the discharge end of the same, as indicated by dotted lines in said Fig. 5. By thus suspending the cut-off so as to be capable of being swung up against the side of the magazine, out of the way of the fuel or fire-pot, it will always be preserved with the stove and in a proper place for instant employment when required to sustain the fuel in the magazine above the mixed fuel and ashes in the fire-pot below, and its swinging connections or arms are made to sustain all the weight, while the operator is only required to thrust the cut-off forward through the mass of fuel, as indicated by arrows in Fig. 2, when the resistance will be but little if the cut-off be made with any of the forms shown and described.

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

1. In combination with the feed-magazine of a stove the cut-off C, constructed as described, and connected with the said magazine by an arm, *a*, so as to be capable of being turned up against the breast or side of the magazine, or of being suspended beneath the discharge end of the same, substantially as and for the purpose set forth.

2. In combination with the fuel-magazine B and the cut-off C the holding pin or projection *e*, whereby the said cut-off will be supported ready for use against the breast or side of the said fuel-magazine, substantially in the manner set forth.

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Witnesses:
GEO. A. THOMPSON,
ALEX. SELKIRK.