(No Model.) 2 Sheets—Sheet 1.

C. C. FREE.

STOVE.

No. 519,705. Patented May 15, 1894.

Fig. 1

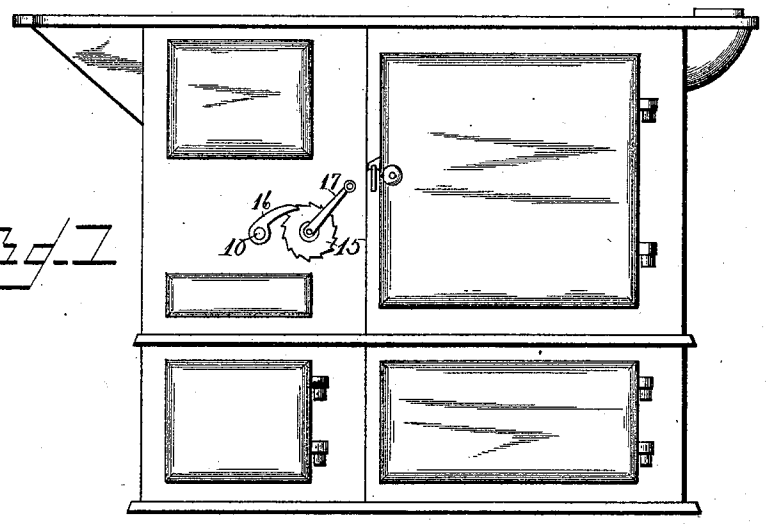
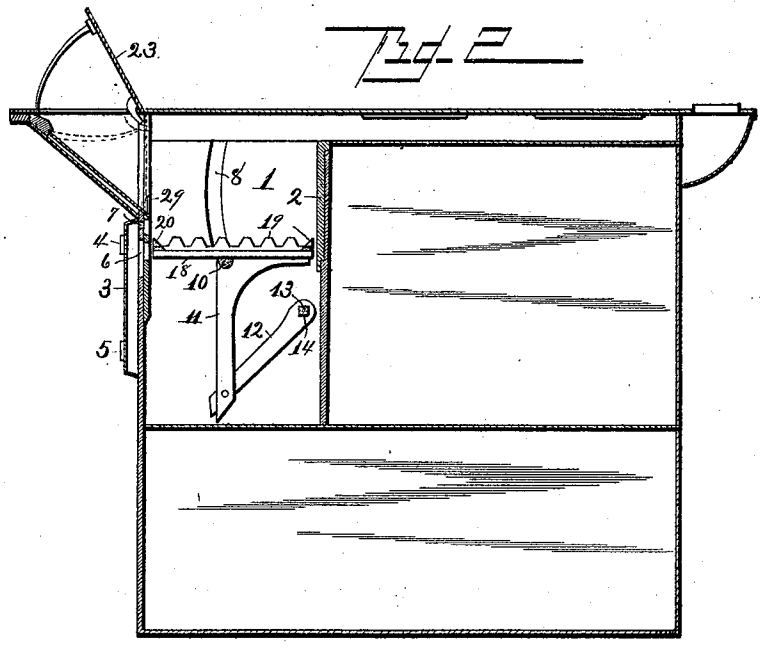


Fig. 2



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(No Model.) 2 Sheets—Sheet 2.

C. C. FREE.

STOVE.

No. 519,705. Patented May 15, 1894.

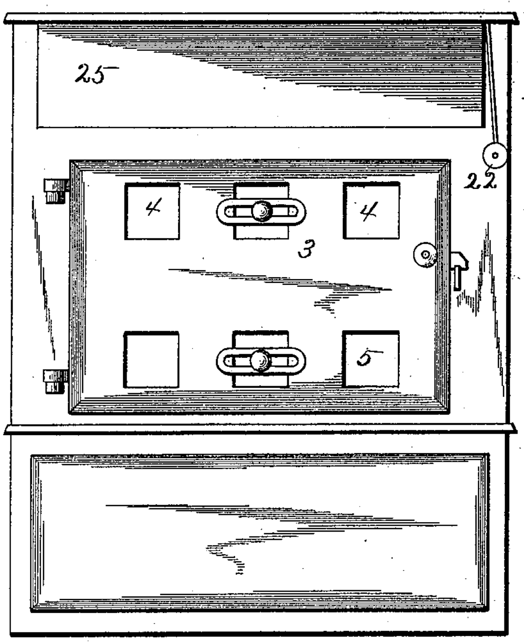


Fig. 3

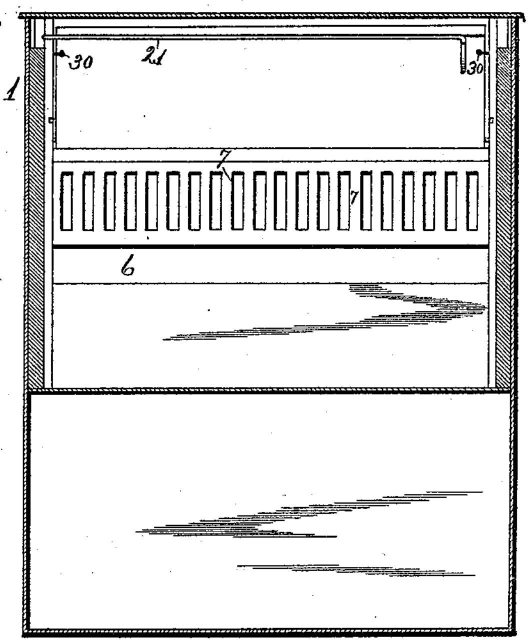
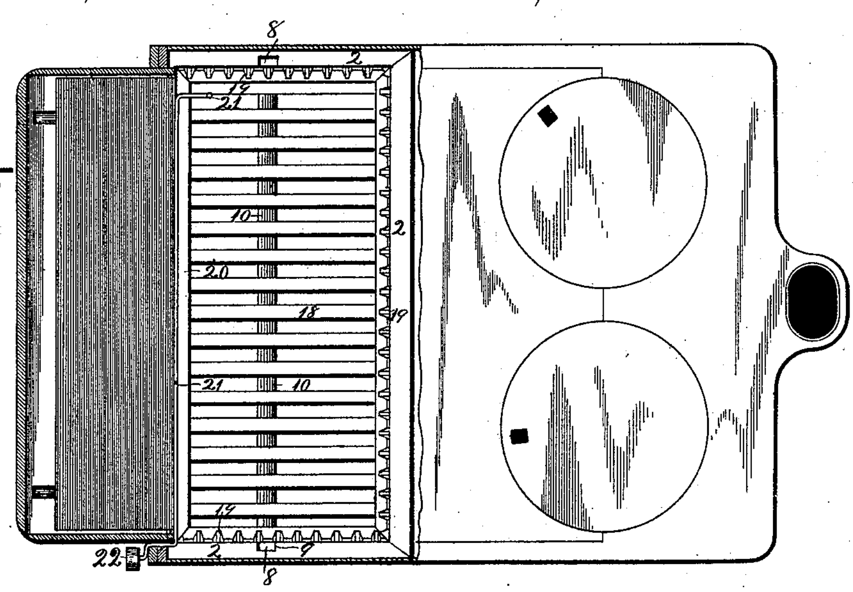


Fig. 4

Fig. 5



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CHARLES C. FREE, OF COLORADO SPRINGS, COLORADO.

STOVE.

SPECIFICATION forming part of Letters Patent No. 519,705, dated May 15, 1894.

Application filed October 27, 1892. Serial No. 450,132. (No model.)

To all whom it may concern:

Be it known that I, CHARLES C. FREE, of Colorado Springs, county of El Paso, and State of Colorado, have invented certain new and useful Improvements in Stoves, of which the following is a specification, reference being had to the accompanying drawings.

The object of my invention is to produce an improved stove, in which the grate or bottom part may be vertically adjusted to provide for different quantities of fuel necessary to heat the stove. For example in stoves of ordinary construction it is necessary to fill the grate with an unnecessary quantity of fuel so as to raise the heat directly under the top of the stove for certain purposes. After the work is completed the fuel must be allowed either to waste, or the grate must be dumped, all of which is inconvenient and expensive.

By my invention I provide improved and convenient means for increasing or diminishing the depth of the fire pot, so that an effective fire from a small quantity of coals may be made, or a deep fire for protracted use may be had, as in ordinary stoves.

In the accompanying drawings, Figure 1 is a side elevation of my stove; Fig. 2 a central vertical section of the same. Fig. 3 is a front view. Fig. 4 is an inside view of the front wall of the stove; and Fig. 5 is a top plan view with the top of the stove over the fire-pot and the feed door removed.

Referring to the figures on the drawings, 1 indicates a section of a stove that is provided with a fire-pot composed of vertical, preferably removable walls 2.

3 indicates a draft-door provided with upper and lower drafts 4 and 5.

6 indicates a lower draft slit in the front wall of the stove, and 7 an upper draft slit.

8 indicates curved channels in each of the end walls, which retain and guide the bearing ends 9 of a grate-bar 10 which is preferably round to permit of its rotary movement in grate-bar supports 11. They are pivoted to levers 12 secured to a rock-bar 13. The levers may be conveniently secured to the rock-bar by making the latter square, and providing square apertures 14 in the ends of the levers.

15 indicates a ratchet secured to the outer end of the rock-bar, and 16 a pawl adapted to engage therewith and control the movement of the rock-bar in one direction.

17 indicates a crank adapted to impart motion to the rock-bar. Upon the grate-bar is secured a grate 18 of any suitable construction, but preferably provided on three of its outer edges with notched ribs 19, and on the front edge with a smooth rib 20, which affords a bearing surface for a dumping lever 21 pivotally carried in one side of the front wall of the stove, and provided with a counter-weighted handle 22, which normally holds the inner end of it in the elevated position; and whereby that end may be depressed against the front of the grate by lifting the handle from the outside.

The operation of my device is as follows: Suppose it to be desirable to adjust the grate to a particular height by turning the crank 17, the rock-bar is rotated to impart motion to the grate-bar supports while the grate-bar is guided smoothly and evenly in the curved channels 8 and the grate is carried without tilting to the desired height, and is retained there by the engagement of the pawl with the ratchet on the rock-bar. Afterward fuel is supplied by raising the feed-door 23 and emptying it into the chute as usual. Part of it of course falls into the fire-pot, the balance being spread evenly over the grate.

The operation of the dumping lever has already been described.

It will be observed that by the construction of the grate the smallest amount of fuel may be carried in it, and at the same time the possibility of its obstructing the coal heaver is prevented by the smooth edge which is provided on the side adjacent thereto. It should also be observed that the walls of the fire-pot are without obstructions of any kind, which might tend to interfere with the free movement of the grate, or to collect soot and ashes and clog the draft in the stove.

I do not desire to limit myself to the exact details of construction herein shown and described, because they may be in many respects varied without departing from the scope of my invention.

What I claim is—

1. In a stove, the combination with a fire pot, of an eccentrically pivoted vertically adjustable grate therein, and a counter-weighted

dumping lever held normally out of contact with the grate and adapted to dump the grate by pressing upon the edge thereof when the counter-weighted end of the lever is lifted, substantially as specified.

2. In a stove, the combination with the fire pot, and movable grate provided with notched ribs on three sides and a smooth rib on the remaining side, of a dumping lever having one of its arms adapted to have a bearing upon the smooth rib when the grate is being dumped, substantially as specified.

3. In a stove, the combination with a fire pot provided with curved channels in its ends, of a grate bar, grate bar support and levers pivoted thereto, and fixedly secured to the rock bar, a crank, and pawl and ratchet mechanism adapted to adjust the grate bar support, a grate pivoted to one side of its center upon the grate bar, arms adapted to sustain the heavier side of the grate, and a counter-weighted dumping lever held normally out of contact with the grate, and adapted to dump the same when the counter-weighted end of the lever is lifted, substantially as specified.

In testimony of all which I have hereunto subscribed my name.

CHARLES C. FREE.

Witnesses:
J. P. KEELER,
F. C. GRAVES.