(No Model.)

W. C. SMITH.

HEATING STOVE.

No. 331,455. Patented Dec. 1, 1885.

Fig. 1

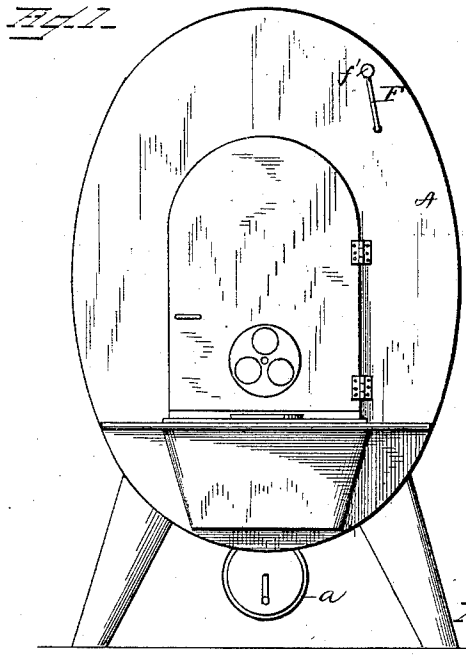
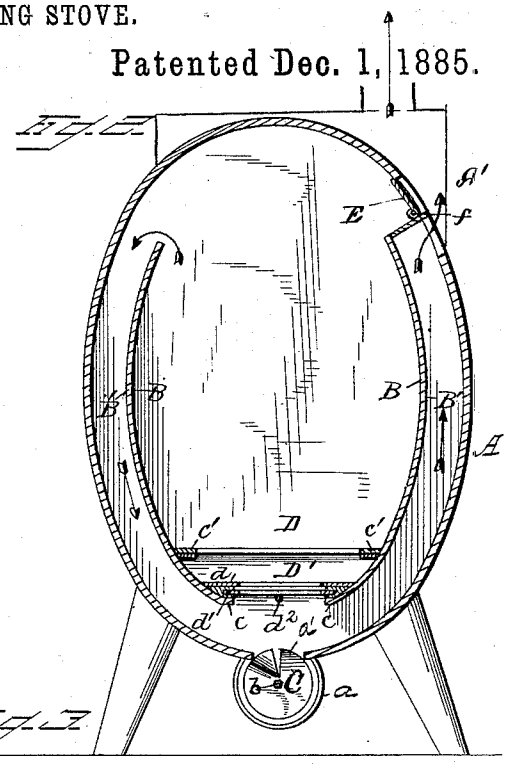
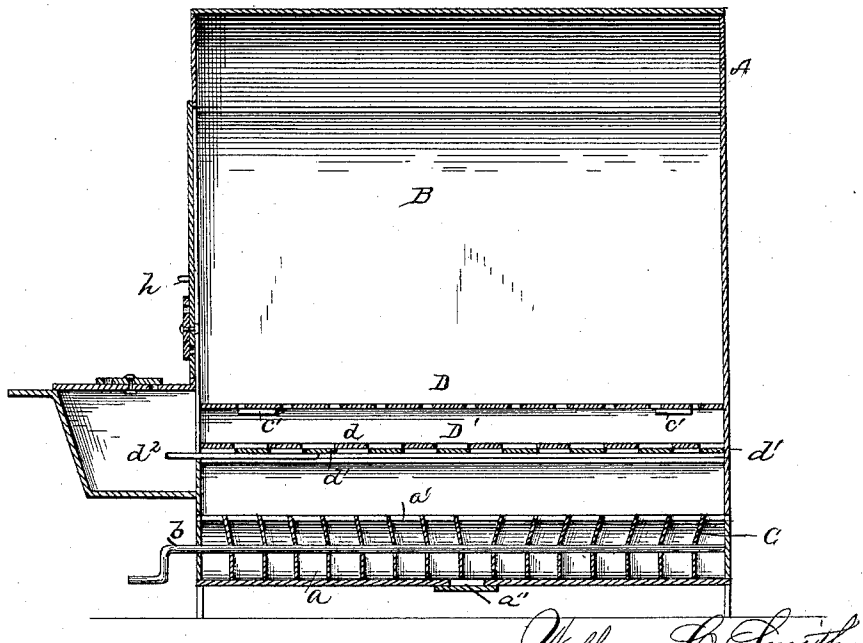


Fig. 2





WITNESSES

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WILLIAM C. SMITH, OF WARSAW, MISSOURI.

HEATING-STOVE.

SPECIFICATION forming part of Letters Patent No. 331,455, dated December 1, 1885.

Application filed April 17, 1884. Serial No. 128,268. (No model.)

To all whom it may concern:

Be it known that I, WILLIAM C. SMITH, a citizen of the United States of America, residing at Warsaw, in the county of Benton and State of Missouri, have invented certain new and useful Improvements in Heating-Stoves; 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 appertains to make and use the same, reference being had to the accompanying drawings, and to letters or figures of reference marked thereon, which form a part of this specification.

My invention relates to heating-stoves adapted for burning wood; and it consists in the improved construction hereinafter described, whereby the regular and perfect combustion of the fuel is insured, and the objection of becoming clogged by an accumulation of charcoal and ashes prevented.

In the accompanying drawings, forming part of this specification, Figure 1 is a front view of a stove constructed in accordance with my invention. Fig. 2 is a transverse section of Fig. 1. Fig. 3 is a longitudinal section of Fig. 1.

A refers to a shell, which forms the main casing or body of the stove, and is curved, as shown, to form interiorly the combustion-chamber. The said shell is provided at its bottom with an opening which extends lengthwise of the stove, and forms a communication with a nearly cylindrical section, *a*. The said section has ends which form bearings for a shaft, *b*, the front end of which projects beyond the front of the section for the attachment of a crank. The said shaft *b* is provided with a series of flanged blades, C, which are preferably inclined, as seen in Fig. 3, in which the blades on the forward and those on the rear half of the shaft are inclined toward each other, as shown. The extended opening in the bottom of the shell is designated by the letter *a'*. An opening, a^2, is formed in the bottom of the section *a*, and is opened by a slide.

B refers to a curved partition, which is located on each side of the combustion-chamber, but is of sufficient distance from the inner face of the shell A to form flues B' B'. The said partition is provided at its lower portion with upper and lower flanges, *c c'*, the upper flanges, *c'*, being designed and adapted to support a grate, D. A short distance below the grate D are located dumping-grates D', one of which carries a rod, d^2, provided at its front with an operating-handle. The said grates D' are provided each with a series of openings adapted to be covered or uncovered by moving said grates relative to each other. An opening is formed in the casing A, adjacent to the upper end of one of the flues B', and the said opening is adapted to be covered or uncovered by means of a damper, E, which is pivotally secured on the rear end of a horizontal bar, F, which extends beyond the front of the casing and terminates in a crank for operating said damper. One of the upper ends of the flue B' is cut off from communication with the combustion-chamber, but discharges through an opening formed in the casing, which is covered by a smoke-jacket, A', provided with a suitable discharge-flue.

In use, the wood fuel is placed in the combustion-chamber, the fire started, and as the fuel is consumed the ashes sift through the grate D onto the grate D', which is so adjusted as to close the openings in the same and the plate beneath. It will thus be seen that a closed chamber is formed between the grates D D', into which the ashes sift, which becomes filled with the ashes, when, or after the charcoal and ashes commence to accumulate upon the upper grate, D, the lower grate, D', is operated by its rod d^2 to dump the ashes from the intermediate chamber, emptying the latter, so that ashes can again sift into it from the fire-chamber, thus preventing an accumulation. The arrangement of grates D D' and intermediate chamber is such that all downward draft through said grates and chamber is prevented, and the retention of the ashes in the intermediate chamber insured. When the ashes are dumped from the grates D', they fall into the chamber formed by the section *a*, and by causing the rotation of the shaft *b* the blades C thereof act to move the ashes toward the opening a^2, through which they are discharged into a receptacle placed to receive them.

It will be apparent that when ashes are located in the central or intermediate chamber all passage of draft through the grates is prevented, while the lower grate, by reason of its

position, forms a central continuation of the flue B′.

I claim—

1. In a wood-burning heating-stove, the upper grate, D, the lower dumping-grate, the latter forming in connection with the grate D a closed chamber for the reception and retention of the ashes from the fire-chamber, in combination with the shell A, and portion B, forming a flue, B′, extending around the sides and beneath the fire-chamber, the said lower grate forming a central continuation of the flue, substantially as set forth.

2. In a wood-burning stove, an ash-chamber, a section, *a*, forming a chamber, and receiving ashes from said ash-chamber, a discharge-opening in said last-mentioned chamber, and means, substantially as described, for discharging the ashes through said opening, for the purpose specified.

In testimony whereof I affix my signature in presence of two witnesses.

WILLIAM C. SMITH.

Witnesses:

WILL W. WISDOM,

DAN B. HURLBUT.