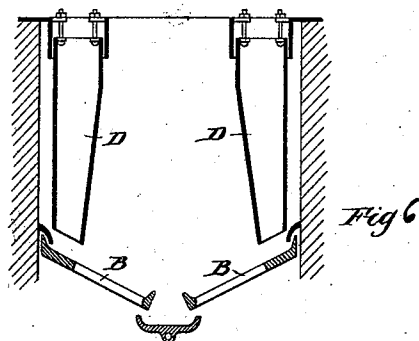
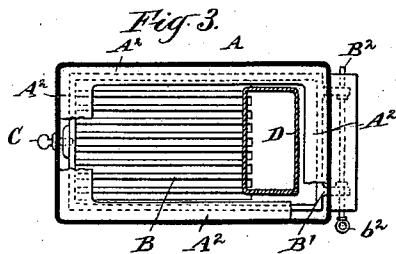
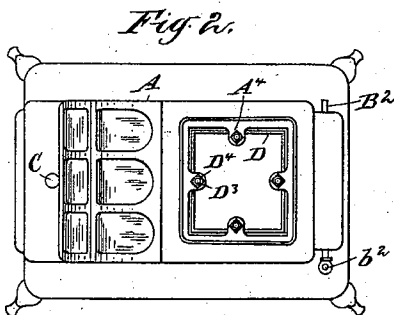
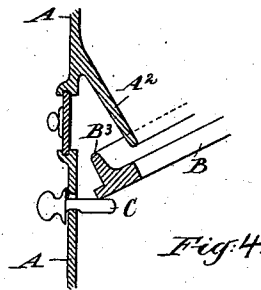
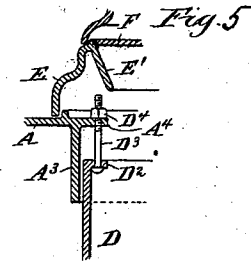
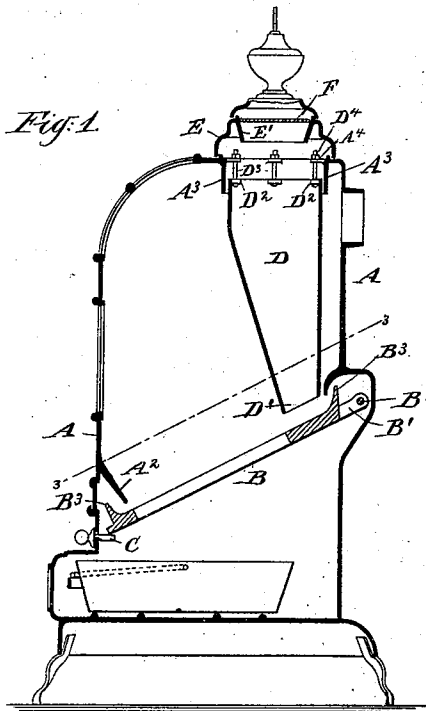


(No Model.)

C. W. BOYNTON.
STOVE.

No. 550,436.

Patented Nov. 26, 1895.



Witnesses:
Chas. E. Searle.
E. Ward. Blair, del.

Inventor:
Cassimer W. Boynton,
by his attorney
Charles R. Searle.

UNITED STATES PATENT OFFICE.

CASSIMER W. BOYNTON, OF WOODBRIDGE, NEW JERSEY.

STOVE.

SPECIFICATION forming part of Letters Patent No. 550,436, dated November 26, 1895.

Application filed February 16, 1895. Serial No. 538,616. (No model.)

To all whom it may concern:

Be it known that I, CASSIMER W. BOYNTON, a citizen of the United States, residing in the township of Woodbridge, county of Middlesex, and State of New Jersey, have invented a certain new and useful Improvement in Stoves, of which the following is a specification.

The invention relates particularly to the grate and the reservoir supplying coal thereto.

The grate is set at an inclination corresponding to the angle of falling coal and is provided with means for shaking and dumping. The reservoir is supported adjustably above the upper portion of the grate and may be raised or lowered to increase or diminish the space between its lower end and the grate, according to the size or other qualities of the coal used. This is effected by turning screw-threaded nuts engaged on screw-bolts attached to the reservoir and extending through portions of the fixed casing above. The lower end of the reservoir is beveled to match to the inclined surface of the grate, so that the out-flowing fuel will be evenly distributed and lie in a thin sheet.

The accompanying drawings form a part of this specification and represent the novel parts and so much of the ordinary parts as will show their relation thereto.

Figure 1 is a vertical section of a self-feeding heating-stove constructed according to my invention. Fig. 2 is a plan view of the same with certain portions removed. Fig. 3 is a horizontal section on the line 3 3 in Fig. 1. Figs. 4 and 5 show details on a larger scale. Fig. 4 is a vertical section showing the means for supporting the inclined grate at the front. Fig. 5 is a similar view of the means for raising and lowering the reservoir. Fig. 6 is a similar view of a form adapted for use in large furnaces.

Similar letters of reference indicate the same parts in all the figures where they occur.

A is the cast-iron casing or shell of a stove, which, it will be understood, may be constructed with the proper flues and passages (not shown) to constitute a "base-burner" or other well-known and approved form of heater.

B is the grate, inclined at about the angle shown, supported at the upper end on a trans-

verse rod B², located in an offset in the casing or shell and engaged in eyes in the lugs B¹, extending rearward from the grate, and at the lower end on a removable pin C, extending through a small hole provided in the casing A at the front. The rod B² extends through the stove from side to side, each end projecting a short distance. One end is formed with a ring b², in which a poker or other suitable small article of stove furniture may be inserted and the connected grate shaken by alternately thrusting and pulling.

To dump the grate, the pin C is withdrawn, allowing the grate to swing downward turning on the projecting ends of the rod B², which act as trunnions.

B³ is an upturned lip or flange cast on the upper surface of each edge of the grate to retain the coal and prevent its falling through the narrow spaces between the grate and casing. These spaces are shielded by downwardly-inclined guards A², cast or otherwise secured on the interior of the casing A and projecting inward sufficiently to overhang the lip B³ in whatever position laterally the grate may occupy.

The guards A², with the flange B³, seal the space around the grate and when covered with coal or ashes effectually prevent the passage of air from below around instead of through the burning coal.

D is the reservoir, of thin cast-iron. It is rectangular in horizontal section. The sides, back, and a portion of the front at the top are vertical and parallel. The remaining portion of the front (the lower portion) inclines downward, as shown. The lower end is oblique or beveled, as indicated at D', to match to the inclination of the grate-surface. The upper end (the portion without taper) telescopes into a correspondingly-shaped close-fitting portion of the top casing, consisting of a depending flange A³ on each of the four sides.

D² are lugs cast one on each of the interior faces of the reservoir, drilled to receive screw-threaded bolts D³, inserted from below, each engaging a hole in a corresponding lug A⁴ above, formed on the inner faces of the flange A³. Nuts D⁴, applied to the screw-threaded projecting ends of the bolts, find bearings on the upper surface of each lug A⁴ and on be-

ing turned in the proper direction raise the reservoir D to the desired height above the grate. Care must be taken to raise the reservoir equally on all sides in order that it shall
 5 not bind in the flange A³ and to preserve the parallelism between the lower end D' and the grate.

An ornamental cover E, provided with an inwardly-inclined flange E', incloses the nuts
 10 and projecting ends of the bolts and guides the fuel supplied to the reservoir. It is closed by a plate F, covered by the base of an ornamental urn or other device, as usual.

It will be understood that mica-covered
 15 openings, ash-pit doors, ash-pan, dampers, &c., are employed as may be found necessary or desirable.

My invention is intended for burning "chestnut" and finer sizes of anthracite coal
 20 and coke. The fuel from the reservoir is delivered upon the upper end of the grate, and as the latter is inclined at the angle naturally taken by the coal in falling it is distributed by gravity at a uniform depth over the sur-
 25 face. As it burns away, the clinker and ashes too coarse to drop through gradually slide down by gravity, assisted by an occasional agitation, and are replaced by fresh fuel from the reservoir. The cinder and ashes pass
 30 over the lower edge of the grate when shaken or are occasionally removed by a properly-shaped poker or other implement.

Modifications may be made in the forms and proportions within wide limits without
 35 departing from the spirit of the invention or sacrificing its advantages.

The invention may obviously be applied to

cooking-stoves, the extended grate-surface being particularly desirable for such purpose.

The modified form shown in Fig. 6 is in-
 40 tended more particularly for use under boilers and in other similar situations. The reservoirs are on each side supplying fuel to a series of grates each inclined toward the center.

The invention is well adapted and is especially intended for burning very small coal, as "pea," "buckwheat," and smaller sizes of anthracite. I believe that "culm," a practically valueless residuum from the coal-
 50 screens, may be used satisfactorily.

I claim as my invention—

1. The combination with the casing having downwardly-extending guards on its inner wall, of a grate pivotally mounted at its up-
 55 per end and arranged at an inclination corresponding to the falling angle of the fuel used and formed at the upper and lower edges thereof, with flanges or guards, substantially as and for the purpose specified. 60

2. The combination with the casing formed with an offset, of a rod mounted in the end walls of said offset and extended to form a means for dumping the grate, and a grate having lugs arranged in said offset and in
 65 which said rod is engaged, substantially as specified.

In testimony that I claim the invention above set forth I affix my signature in presence of two witnesses.

CASSIMER W. BOYNTON.

Witnesses:

CHAS. E. SEARLE,

E. WARDE BLAISDELL.