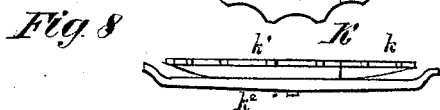
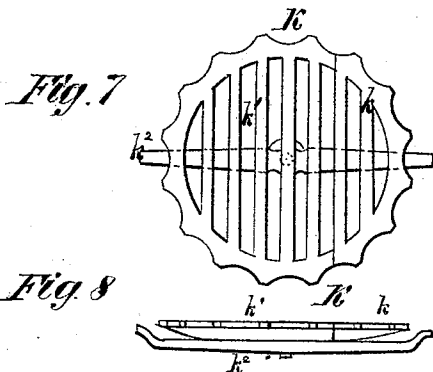
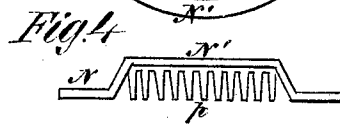
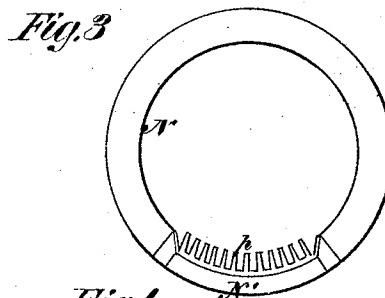
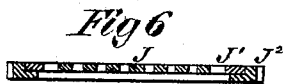
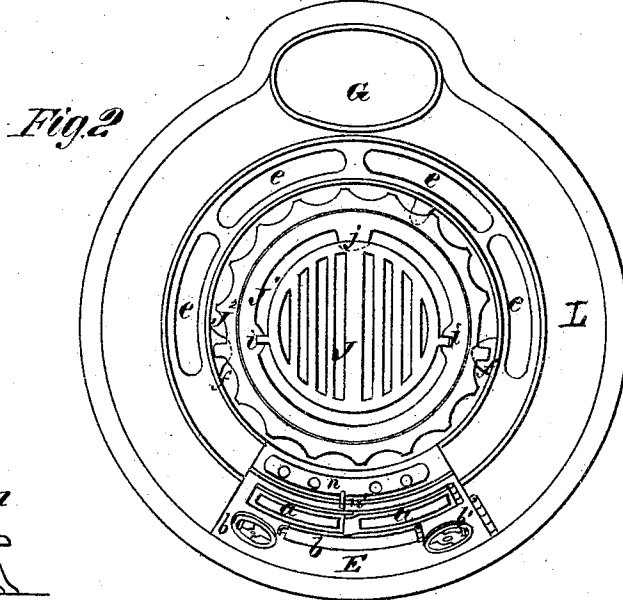
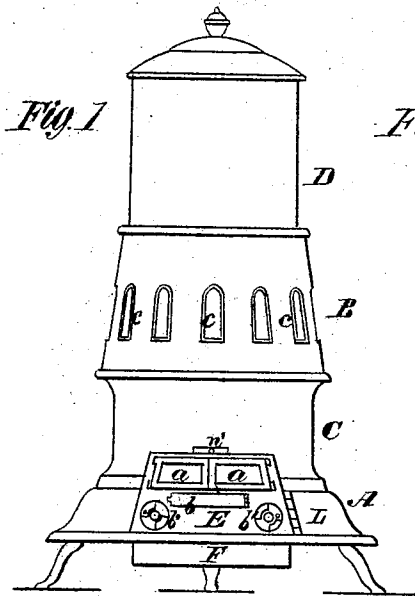


J. S. PERRY & A. DICKEY.
Stoves.

No. 152,509.

Patented June 30, 1874.



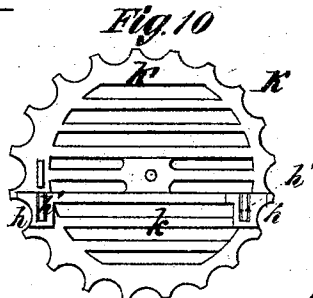
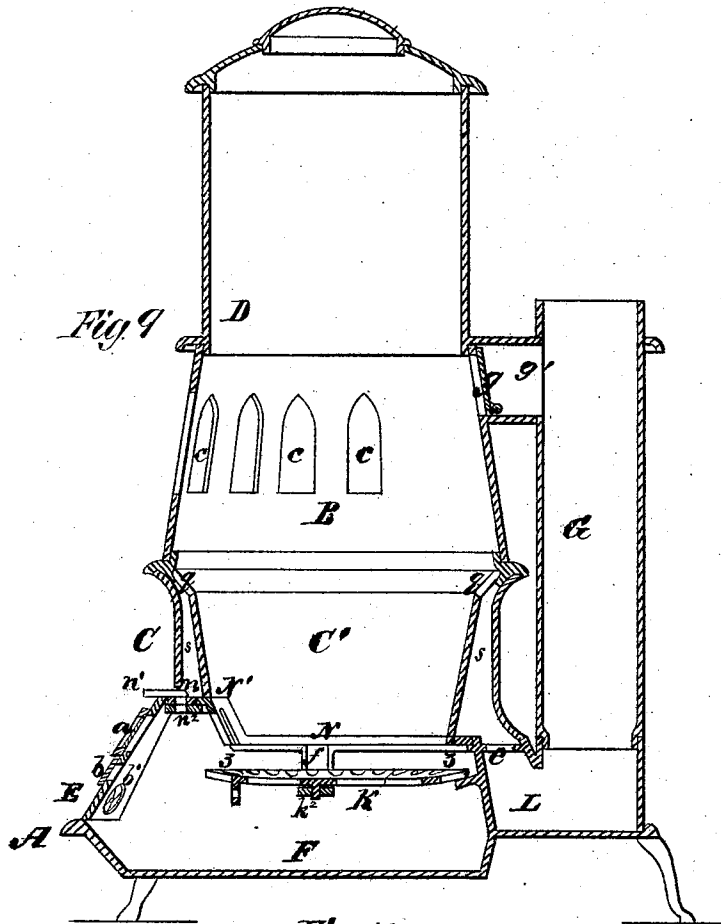
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UNITED STATES PATENT OFFICE.

JOHN S. PERRY AND ANDREW DICKEY, OF ALBANY, NEW YORK.

IMPROVEMENT IN STOVES.

Specification forming part of Letters Patent No. 152,509, dated June 30, 1874; application filed August 4, 1873.

To all whom it may concern:

Be it known that we, JOHN S. PERRY and ANDREW DICKEY, of Albany, in the county of Albany and State of New York, have invented certain novel Improvements in Stoves and Furnaces; and we do hereby declare that the following is a full, clear, and exact description thereof, reference being had to the accompanying drawings, making part of this specification, in which—

Figure 1, Plate 1, is a front elevation of the stove. Fig. 2, Plate 1, is a top view of the base-section without the grated ring. Figs. 3 and 4, Plate 1, are views of the grated ring. Figs. 5 and 6, Plate 1, are views of the grate or fire-bed shown in Fig. 2. Figs. 7 and 8, Plate 1, are views of a sectional grate or fire-bed represented applied to the stove in Fig. 9. Fig. 9, Plate 2, is a section taken vertically and centrally through the stove or furnace from front to rear. Figs. 10 and 11, Plate 2, show the construction of the grate or fire-bed represented in Fig. 9.

Similar letters of reference indicate corresponding parts in the several figures.

Our object is to improve base-burning and surface-burning stoves and furnaces by the application of a grated ring at the base of the fire-pot, the grated portion of which ring is elevated and located opposite the illuminating ash-pit door, so as to expose to view the light of the fire, and also support the fuel at the front of the fire-pot.

The following description of our improvements will enable others skilled in the art to understand the same.

In the accompanying drawings, A represents the base-section of the stove or furnace; C, the section which surrounds the fire-pot C'; B, the illuminating-section above the fire-pot or fire-chamber, and D the cylindrical upper portion of the stove or furnace.

The stove represented by Figs. 1 and 9 is a surface-burner; but it may be converted into a base-burner by the introduction above the fire-pot or fire-chamber of a fuel-magazine in the usual well-known manner; or, if desired, the heater may be converted into a cook-stove or furnace.

The base-section A contains an ash-pit, F, which is nearly surrounded by a horizontal

flue-chamber, L, which flue communicates behind with an ascending flue, G, and above with the fire-chamber. The flue G leads to the chimney, and communicates with the fire-chamber by means of a short pipe, g' , in which a damper, g , is applied for the purpose of giving a direct draft from the fire-chamber into the flue G when such draft is required. The openings g through the upper margin of the fire-pot C', allow the products of combustion to dive down all around the outside of the fire-pot through the flues $s s$, and enter the flue-chamber L through openings e when damper g in direct flue g' is shut, as shown in Fig. 9. At the lower end of the fire-pot C' is a ring, N, which presents a grated elevation, N', at its front, the grating or teeth of which are inclined inward, so as to form a bank for supporting the coals which impinge against it. By this grated elevation an increased illuminating area is obtained. The elevated grated portion N' of the ring N rests upon an elevation, n^2 , which projects downwardly over the front passage leading into the ash-pit, which elevation is perforated, and provided with a laterally-movable register, n , the handle n^1 of which projects through a slot made through the front of the stove. By means of this register more or less air from the ash-pit F can be conducted, when the damper g is open, into the flue-space $s s$ surrounding the fire-pot, and thence through openings g into the fire-pot. The passage leading into the front of the ash-pit is provided with doors E, which extend above the level of the lower end of the fire-pot, so as to cover the arch n^2 . To these doors E we supply transparent windows or doors $a a$, which are hinged so that they can be opened and shut. A poke-hole, provided with a door, b , and two registers, $b' b'$, are also applied to the ash-pit doors E. The windows or doors $a a$ are directly in front of the grated elevation N' of the ring N; consequently the light of the fire inside of the grates will be exposed to view through said doors or windows $a a$, and the condition of the fire at the base of the fire-pot can be seen at a glance without opening the ash-pit doors.

Figs. 2, 5, and 6 show a grate or fire-bed which presents a flat face, and which is made up of three detachable rings, J J¹ J². The in-

ner ring J is grated, and is supported at three points, *i*, *i*, and *j*, by means of the ring J¹. This section J can be tilted forward to discharge the contents of the fire-pot into the ash-pit. The ring-section J¹ is supported by an annular rabbet in the outer ring J², which allows this section J¹, with its grated section J, to be oscillated laterally. The outer ring-section has its periphery scalloped, and the outer edge may be turned up more or less to prevent the escape of unburnt coals into the ash-pit, and it is supported by three lugs, two of which, *f f*, allow the entire grate or fire-bed to be tilted or dumped forward.

The grate or fire-bed *k* (represented in Figs. 7, 8, 9, 10, and 11) is dished, and is supported by a central pivot upon a rocking bar, *k*², the ends of which have their bearings in lugs *f f*. This grate or fire-bed can be oscillated horizontally, or it can be tilted or dumped forward sufficient to allow the contents of the fire-pot to be discharged. The grate or fire-bed is of greater diameter than the inside diameter of the fire-pot or fire-chamber at its lower end, as shown in Fig. 9, and this is arranged a short distance below the fire-pot or fire-chamber, so as to leave a space, 3, for the expansion of the coals upon the grate or fire-bed, and for the introduction of a poker, by means of which clinkers and cinders can be expelled without dumping the grate or fire-bed, or disturbing

the fire. In order to employ a grate or fire-bed of said larger diameter, I make it of two or more sections, *k k*¹, and connect these sections together by means of tongues *h'* and slotted lugs *h*. The tongues are formed on the bottom of one section, and the slotted lugs on the bottom of the other sections, and when the two sections are together the loops and lugs interlock. If, for any reason, it is desired to remove this grate or fire-bed, the two sections are detached, when either one of them will be smaller than the ash-pit, and can be removed through it.

By thus constructing a grate or fire-bed it can be made of a diameter considerably larger than the bottom of the fire-pot or fire-chamber, or the width of the ash-pit door, and thus can be conveniently passed through the latter.

Having described our invention, what we claim as new, and desire to secure by Letters Patent, is—

The separate ring N, arranged at the base of the fire-pot, and constructed with a grated elevation, N', opposite the transparent windows or doors *a*, substantially as described.

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Witnesses:

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