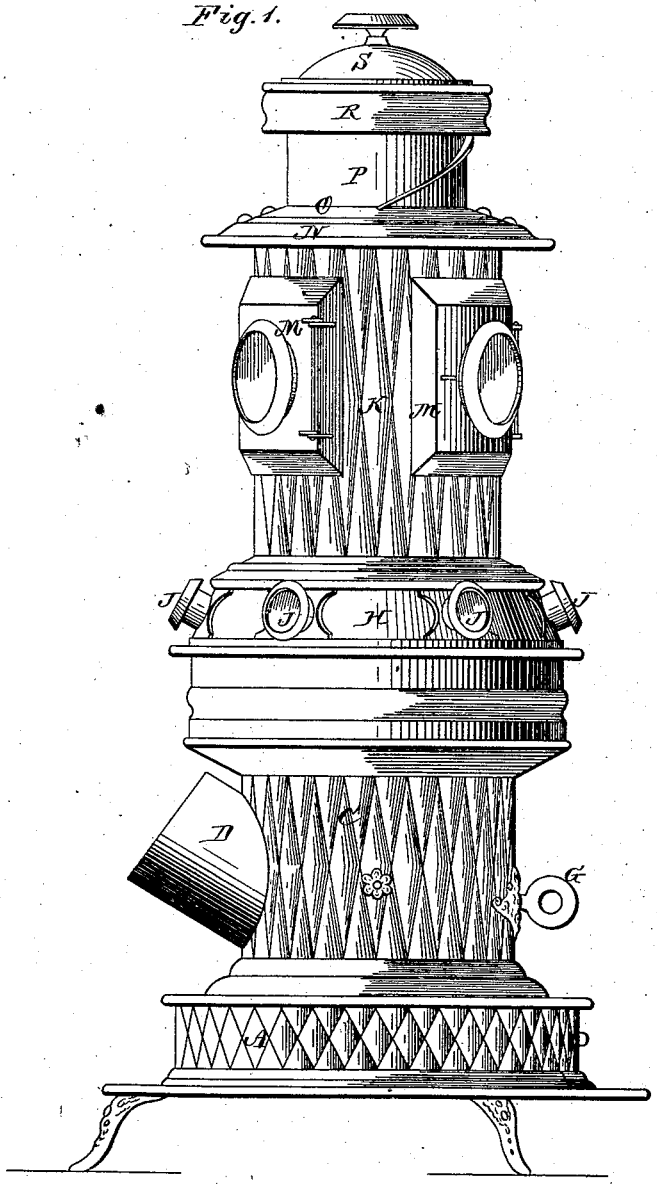
2 Sheets--Sheet 1.

R. BLUM.

Magazine-Stove.

No. 162,344. Patented April 20, 1875.

Fig. 1.



WITNESSES

Henry N. Miller

C. L. Emerson

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Reinard Blum.

per Alexander Mason

ATTORNEY

THE GRAPHIC CO. PHOTO-LITH. 39 & 41 PARK PLACE, N.Y.

2 Sheets--Sheet 2.

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Fig. 2.

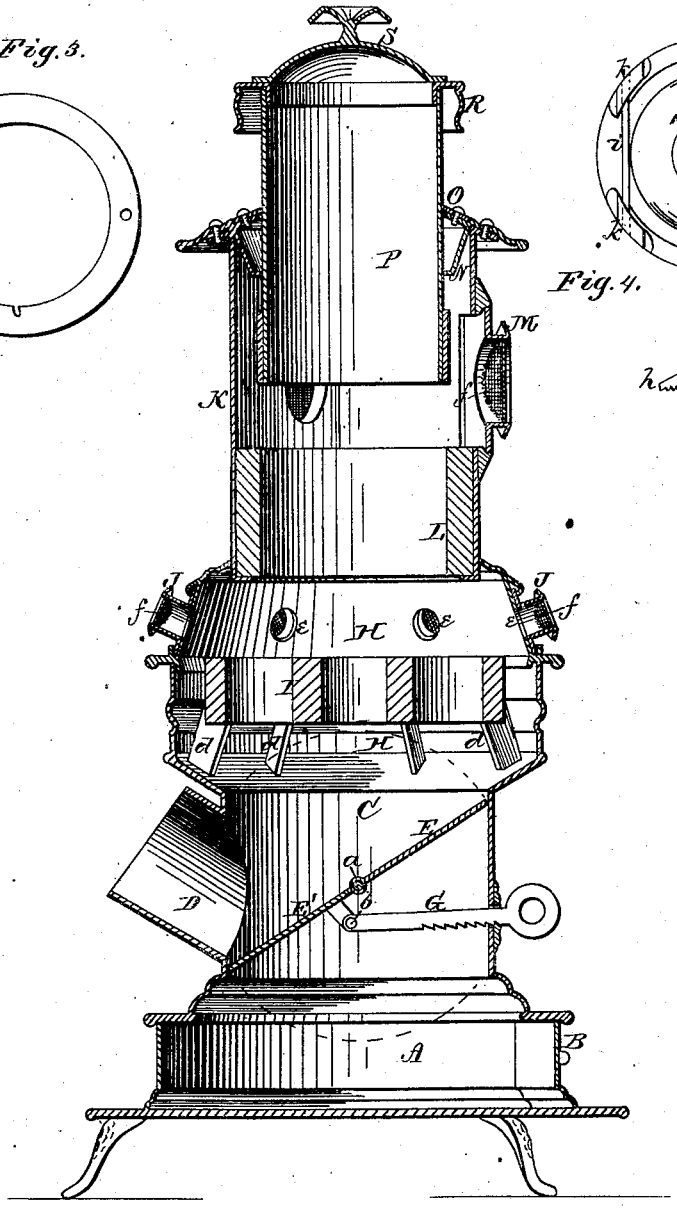


Fig. 3.

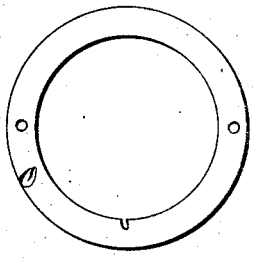
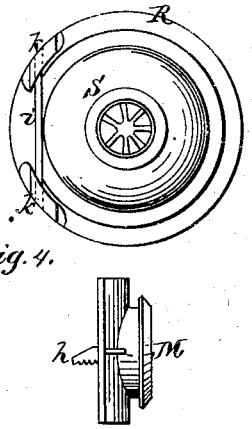


Fig. 4.



WITNESSES

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UNITED STATES PATENT OFFICE.

REINARD BLUM, OF CHAMPAIGN, ILLINOIS.

IMPROVEMENT IN MAGAZINE-STOVES.

Specification forming part of Letters Patent No. **162,344**, dated April 20, 1875; application filed March 6, 1875.

To all whom it may concern:

Be it known that I, REINARD BLUM, of Champaign, in the county of Champaign and in the State of Illinois, have invented certain new and useful Improvements in Heating-Stoves; and do hereby declare that the following is a full, clear, and exact description thereof, reference being had to the accompanying drawings, and to the letters of reference marked thereon, making a part of this specification.

The nature of my invention consists in the construction and arrangement of a magazine-stove which will consume the smoke, thereby economizing fuel, as will be hereinafter more fully set forth.

In order to enable others skilled in the art to which my invention appertains to make and use the same, I will now proceed to describe its construction and operation, referring to the annexed drawings, in which—

Figue 1 is a side elevation of my stove. Fig. 2 is a longitudinal vertical section of the same. Fig. 3 is a plan view of a collar fastened on the top of the stove. Fig. 4 is a plan view of the cover.

A represents the base of the stove, supported upon suitable legs, and provided with an opening, with gate B in front, for the removal of ashes in the ordinary way. On top of the base A, and secured thereto, is a cylindrical section, C, in the back of which is made a suitable opening for the attachment of the exit-collar D, said collar running on an angle upward, as shown. Through the center of this section, from side to side, is passed a shaft, *a*, provided on one end with a loop or handle, so as to be turned in its bearings. To the shaft *a* are attached two semicircular dampers, E and E′. The upper semicircle E is secured to the shaft, and forms a director for the draft. The lower one E′, which is properly the damper, is hinged to the shaft, and hangs suspended from the same. These circles are extended far enough to strike the section-body C above and below the exit-collar D. To work the damper E′, I attach thereto a flat bar, G, about two inches below the shaft, which bar extends through an opening in the front of the section C. The inner end of this bar is jointed, at *b*, about two inches from the damper, and its outer end provided with a suitable loop or handle. The lower edge of the bar is toothed, as shown, so that by moving it in and down the teeth will catch in the section-body and hold the damper at any desired point. By raising the bar G the damper E′ is released, to swing back to a hanging position. The director E is worked by turning the shaft *a*, and has only two resting-points, namely, against the front and back of the section. On top of the section C, and secured thereto, is another section, H, which I term the "belly" of the stove, swelling out to a large diameter. The belly H separates at about the center, to admit a fire-bottom, I, made of fire-brick or other suitable durable material. To allow the draft to pass through and around the bottom, it is perforated, and of less diameter than the belly. It rests on separated shouldered supports *d d*, extending from the inside of the belly. Just above the surface of the fire-bottom I are made openings *e* in the belly, at regular intervals, for the insertion of a poker to stir the fire. These openings are provided with sliding tubular covers J, which are mica-lighted, and provided on the inner sides with concave screens *f*. Through the upper contraction of the belly H is passed a dome, K, which is secured thereto, and suspended a proper distance above the fire-bottom. This dome is provided, from its lower edge upward for about six or eight inches in height, with an interior lining, L, thus forming a contracted fire-passage. Above this passage in the dome are attached a series of doors, M, which are mica-lighted, and provided with interior screens *f*, of concave form, the same as the screens in the covers J. The doors are also provided with notched catches *h*, as shown in Fig. 4, so as to be held closed, or more or less open, as desired. The dome K is provided with a double top, N, with a projecting rim, secured to the dome by screws. The lower part of the top is sunk, and the upper part raised, said upper part being formed of the annular collar O. Through this double top is passed a hollow cylinder or magazine, P, having an exterior spiral or worm screw. This cylinder is of a length to extend down to the fire-passage L. In Fig. 1 I show the screw-thread or flange on the exterior thereof, which passes through suitable grooves made in the

top and bottom of the top N O. The lower end of the hollow screw P is made thick, to prevent its being quickly burned out. To its upper end, which extends above the top, is secured a detachable fancy rim or ring, R, having an upper flat surface, which is provided with a sliding hinged cover, S, surmounted with a fancy urn or knob. This hollow screw, with its cover, constitutes the adjustable feeder of the stove. The cover S is provided with projecting pins or journals *i i*, inserted in elongated bearings *k k*, so that the cover may be moved forward before it is turned up, to allow the drops of condensation which form on the under side to run into the feeder when open.

The concave screens *f* in the sliding covers J and in the doors M are for the purpose of creating a space between them and the mica, thereby preventing the mica from getting black.

To operate this heater, I throw the director E to the front to give direct draft. The feeder P is then turned to the left, which takes it up out of the way. Through one of the doors M a layer of coarse coal is laid on the fire-bottom I. I then add kindling, partly filling the fire-passage L, and set the same on fire. When well ignited the door is closed, and the feeder screwed down. The cover S is then drawn forward and raised, and the feeder filled with coal, the cover closed, and the feeder set to discharge the required amount of coal. The required draft is given by partly opening the doors M, they being steadied by the notched catches *h*. The draft enters the fuel between the upper edge of the lining L and the under edge of the feeder, and passes down either through the holes in the fire-bottom, or out sidewise between it and the end of the fire-passage, and around the fire-bottom to the exit-collar. By throwing the director back, the draft passes down the front half of the section C, around the damper E′, (which hangs down in a vertical position,) and up the back half to the exit-collar. The fuel will ignite upward to the feeder, but no higher, all above being excluded from air. The smoke oozing from the feeder is consumed in its passage through the fire. The air sweeping around the feeder keeps the coal in it cool, and it gradually sinks as the fire causes vacancy below.

To keep the fire over night, I insert a poker through the openings *e* in the belly H, and free the fire-bottom from ashes. The feeder is filled, and the damper E′ set to the required point by the bar G through the front of the section.

To extract the ashes, which all fall into the base A, the director E is thrown to the front and the damper E′ entirely closed, thus forming a partition, and preventing the draft from passing through the base. The fire following the ashes into the base will burn the unconsumed particles therein.

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

1. The combination, in a stove, of the base A, lower section C, exit-pipe D therein, the director E, and the damper E′, both the director and the damper being independently-acting, substantially as set forth.

2. The combination of the section C, enlargement or belly H above the same, and having the inclined notched supports *d d*, and the perforated detachable fire-bottom I resting thereon, all substantially as set forth.

3. The combination, with the enlargement H, of the sliding mica doors J, having interior concave screens *f*, as and for the purposes set forth.

4. The combination of the sunken top N and collar O, having grooves, as described, with the cylinder or magazine P, having exterior spirals or worm-screw, as and for the purposes set forth.

5. The combination of the rim R, having elongated bearings *k k*, and the cover S, having the projecting journals *i i*, with the cylinder P of a magazine-stove, all as set forth.

In testimony that I claim the foregoing I have hereunto set my hand this 1st day of March, 1875.

REINARD BLUM.

Witnesses:
A. M. SCOTT,
J. B. RUSSELL.