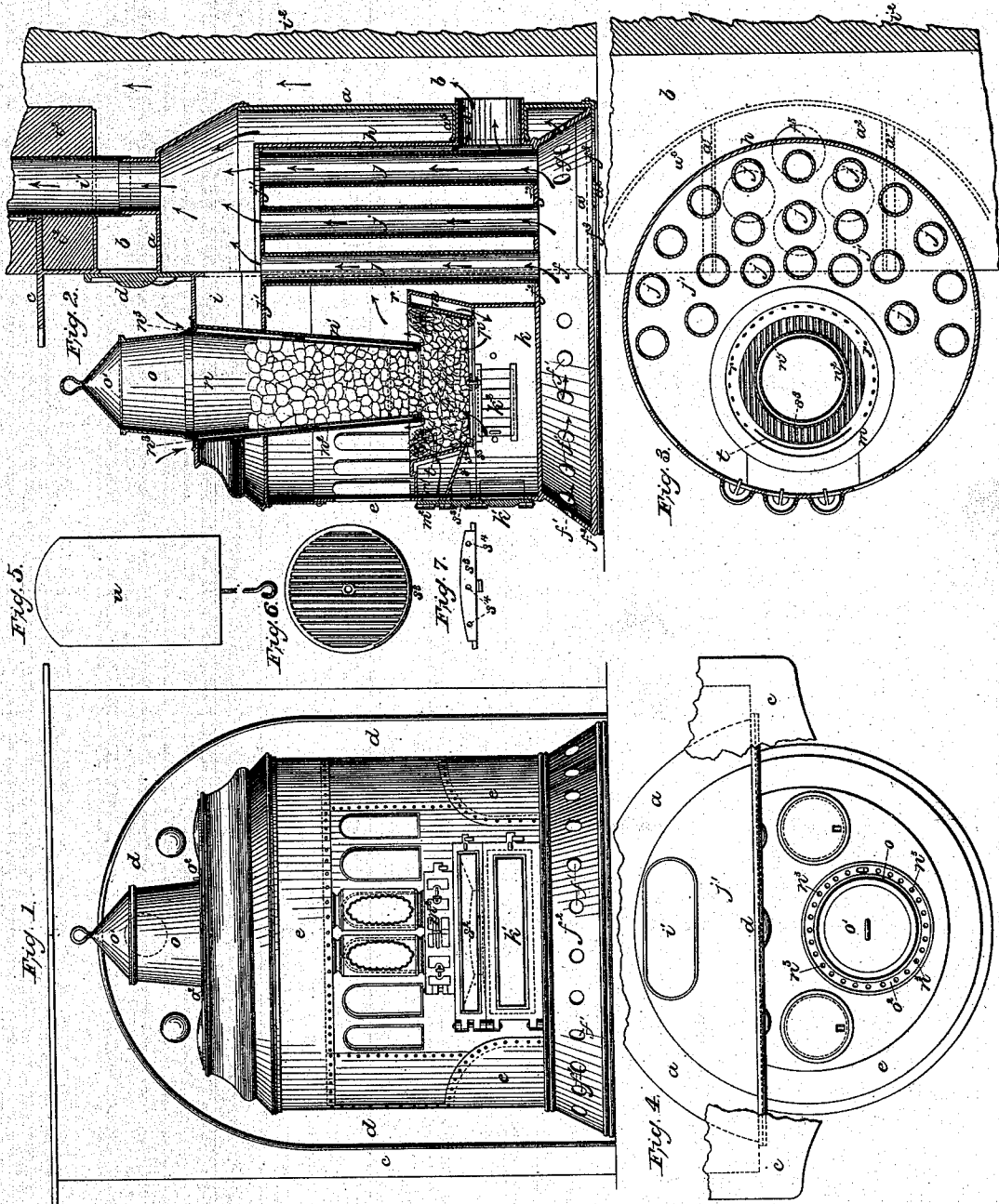


J. M. THATCHER.
Fire Place Heater.

No. 104,376.

Patented June 14, 1870.



Witnesses:
T. C. Thudwell
William McEntyre.

Inventor:
John M. Thatcher

UNITED STATES PATENT OFFICE,

JOHN M. THATCHER, OF BERGEN, NEW JERSEY.

IMPROVEMENT IN FIRE-PLACE HEATERS.

Specification forming part of Letters Patent No. 104,376, dated June 14, 1870.

To all whom it may concern:

Be it known that I, JOHN M. THATCHER, of Jersey City, Hudson county, New Jersey, have invented certain new and useful Improvements in Fire-Place Heaters; and I do hereby declare the following to be a full, clear, and exact description of the same, reference being had to the accompanying drawings, and to the letters of reference marked thereon.

My invention consists, first, of a base-burning fire-place stove, in which are combined the following elements, namely: a cylinder or body projecting outward from the mantel or frame, a fuel magazine or feeder within the said cylinder, and an opening through which the said magazine can be fed from above. The object of this part of my invention is to increase the capacity of the fuel-magazine; secondly, of a base-burning fire-place stove or heater in which the magazine or feeder is extended to the feed-opening of the outer casing, so that there may be no open space across which to project the fuel on feeding the magazine; thirdly, in the combination, with a fire-place stove or heater, of a feeder or magazine projecting above the top of the heater, so as to increase the capacity of the said magazine.

Figure 1 is a front view of my improved fire-place heater; Fig. 2, a vertical section of the same; Fig. 3, a sectional plan; Fig. 4, a plan view with part of the mantel removed; Fig. 5, a view of the "slicer" or plate to be introduced into the fire-pot under the "feeder," for the purpose of holding up the coal which is unconsumed when the clinkers, ashes, &c., in the lower part of the fire-place have to be removed. Fig. 6 is a plan view of the grate, and Fig. 7 an edge view of the grate.

My improved fire-place heater is made in two parts, the part *a* being a stationary concave, fitted to and set in the fire-place *b* below the mantel *c*, and having a front plate or frame, *d*, similar to that of an ordinary grate, and adapted to the shape of the movable part of the heater or stove, the latter being arranged to slide in and out of the stationary concave *a* upon guides *a*¹ attached to the bottom plate *a*² of the stationary concave. When the heater is not required to be used, the movable part may be withdrawn from the fire-place, and a summer-piece so fitted to the latter as to close

the opening in front of the stationary concave.

The object of the guides is to so direct the movable part when it is pushed into the stationary part that the short funnel or outlet *a*³ for the products of combustion will pass into the short, slightly-conical collar *a*⁵, which projects inward from the concave *a*, near the bottom plate. A good joint is thus produced, and the leakage of products of combustion into the air-space between the concave and the movable part of the heater is prevented.

It will be observed that the back of the concave *a* is set at a little distance from the back of the chimney, so that the heat and products of combustion from the flue-passage *a*⁴, which pass through the concave, as before described, may pass up the chimney behind the concave, and thus make the concave a heating-plate for the air, which passes in contact with its opposite side. In the base of the movable part of the heater is an air-chamber, *f*, which may receive air from the room by holes *f*¹ in the flaring base-plate *f*², or air may be brought into the chamber from below through holes in the hearth or bottom plate. Some of the air from this chamber *f* passes through holes *g* of the flaring base-plate into the space between the concave *a* and the cylindrical jacket *h* of the movable part of the heater, and rises up into the distributing-chamber *i*, from which a hot-air pipe, *i*¹, conducts the heated air through the chimney *i*² (shown broken off in the drawings) to the room or rooms above in the usual way. The air from the receiving-chamber *f* also passes up through a set of vertical air-heating tubes, *j*, at the rear of and partly surrounding the fire-pot, said tubes being secured on the two circular plates *j*¹ *j*², which form the top of the receiving-chamber, and the bottom of the distributing-chamber, and which, together with the cylindrical jacket *h*, form the inclosure in which are situated the inclosed ash-pit *k*, the fire-pot *m*, and the lower portion of the feeder or magazine *n*.

In order to protect the lower part of the feeder or magazine from the fire, and also to obtain a circulation of air downward from the top of the stove to the fire-pot to assist in burning the gases, I, in the present instance, construct the magazine with double walls, *n*¹.

n^2 having sufficient room between them for a body of air, and communicating with the outside air by holes n^3 at the top of the feeder, and with the fire-pot by holes at the bottom of the feeder, so that air shall enter at the top of the air-space, between the walls of the magazine, and pass down to the fire-pot for the purpose of keeping the lower part of the feeder comparatively cool, protecting the coal in the feeder from combustion, and supplying air to burn the gases from the burning coal in the fire-pot.

A more minute description of my improved heater than that given above will be unnecessary, as several of the parts described and illustrated in the drawings, form the subjects of other patents, and my present improvements relate especially to the top-feeding arrangement of a fire-place stove or heater. I will now refer more particularly to these improvements.

In constructing my improved heater I have so combined three elements or features as to produce an important result. These features are as follows: first, a cylinder or body of the heater projecting outward from the frame or mantel; second, a feeder or fuel-magazine within the cylinder; and, thirdly, an opening through which the said magazine can be fed from above.

While fire-place stoves or heaters with protuberant cylinders and feeders or magazines were known prior to the date of my invention, I am not aware that the above combination of three features above referred to—namely, a top-feeding arrangement, a protuberant cylinder permitting such an arrangement, and a magazine within the cylinder—has ever been known or used prior to my invention of the same.

It has been the practice to so construct base-burning fire-place stoves or heaters that the fuel had to be introduced into the feeder or magazine through a doorway in front; hence the magazine was of a very limited capacity. By so arranging the feed-hole, however, that the fuel can be introduced into the magazine from above, the capacity of the magazine is

increased—a result which I especially aimed at in adopting the first part of my invention, namely, the above-mentioned combination, and in the production of my top-feeding base-burning fire-place stove.

The second part of my invention consists in extending the feeder or magazine to the feed-hole of fire-place stoves. This not only increases the capacity of the magazine to some extent, but an uninterrupted passage or guide is afforded for the introduction of fuel into the magazine through the opening in the outer casing.

The capacity of the magazine is still further increased, in the present instance, by carrying the feeder up above the top of the heater, by placing thereon a movable section, o , furnished with a cover, o^1 , which has to be lifted off when coal has to be introduced into the magazine.

At and around the base of this removable section o is a flange, o^2 , perforated with holes to match the holes in the feeder or magazine, so that by turning the removable section the air-passage through the walls of the feeder may be closed wholly or partially, as desired.

In case the upper section o of the feeder should be made in one piece with the feeder, a registering-plate, perforated with similar holes, may be used in place of the flange.

I claim—

1. A base-burning fire-place stove, in which are combined the following elements, namely: a cylinder or body projecting outward from the mantel or frame, a fuel-magazine or feeder within the cylinder, and an opening through which the said magazine can be fed from above.

2. A fire-place stove or heater, in which the magazine is extended to the feed-opening of the outer casing.

3. In combination with a fire-place heater, a feeder or magazine projecting above the top of the heater, substantially as described.

JOHN M. THATCHER.

Witnesses:

F. C. TREADWELL, Jr.,
WILLIAM MCINTYRE.