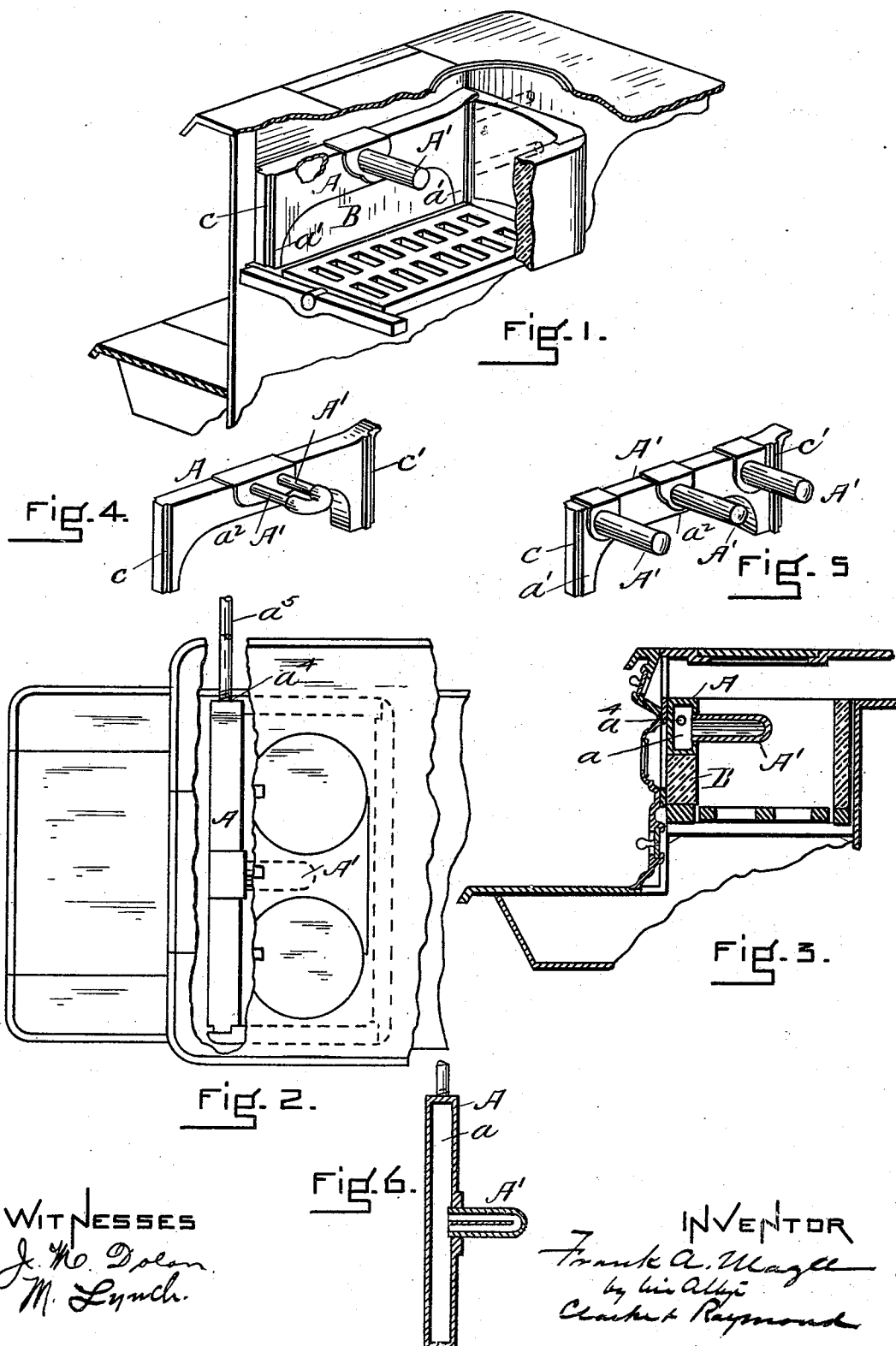


(No Model.)

F. A. MAGEE.
STOVE OR RANGE.

No. 510,692.

Patented Dec. 12, 1893.



WITNESSES
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UNITED STATES PATENT OFFICE.

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STOVE OR RANGE.

SPECIFICATION forming part of Letters Patent No. 510,692, dated December 12, 1893.

Application filed March 27, 1893. Serial No. 467,703. (No model.)

To all whom it may concern:

Be it known that I, FRANK A. MAGEE, a citizen of the United States, residing at Chelsea, in the county of Suffolk and State of Massachusetts, have invented a new and useful Improvement in Stoves or Ranges, of which the following is a full, clear, and exact description, reference being had to the accompanying drawings, forming a part of this specification, in explaining its nature.

The invention relates to an improved type or form of water front for stoves or ranges. It is represented in the drawings as applied to a Magee range.

Heretofore stoves have been provided with water fronts or backs which have formed the entire side or wall of a fire pot, and I have found that such water fronts or backs do not have desirable heating areas and interfere with or prevent the complete or desirable combustion of the fuel, because they bring into close relation with the burning point of the fuel a surface which is more or less chilled, or at any rate, cannot be maintained in a condition and at a temperature suitable for permitting the desired combustion of the fuel. I have overcome this defect by changing the shape and to some extent the location of the water front or box, and so that a relatively small section of its fire pot wall can be touched by the fire in process of combustion, and employing in connection with the water front or back thus arranged one or more extensions into the fire-pot, and preferably upon a line with the surface of an ordinary fire, say at a distance below the pot holes sufficient to permit pots or kettles to be placed therein without coming in contact therewith. The projection or projections are hollow and are connected with the cavity of the water front or back and materially increase its heating surface.

In the drawings: Figure 1 is a view in perspective of a portion of a range going into the fire-pot from behind and illustrating my invention. Fig. 2 is a view in plan of the front end of a range a portion of the top plate being broken out to show the water front. Fig. 3 is a sectional view to further illustrate my invention. Figs. 4 and 5 represent modified forms of the water front, and Fig. 6 is a view

in horizontal section illustrating a further modification.

I have represented my invention in the drawings as a water front being located upon the front side of the fire pot. If it were at the back it would be called a water back. It may, of course, be located at the ends, but I prefer to locate it at the front. It comprises a hollow casting A in the main of a rectangular form and providing the water heating chamber *a*. It may or may not have the downward ending extensions *a'*, but when they are employed they form the arched recess *a²* in which is fitted or placed the fire brick B, forming the principal part of the middle or lower section of the front wall of the fire pot, or that portion against which the fuel is in contact during combustion. When the legs *a'* are not used the fire brick will of course extend entirely across the front wall of the fire pot and take the place of the legs.

The main section of the casting A is above the fire brick and it may extend somewhat higher in the combustion chamber than the old form of water back. It has at one end the threaded holes *a⁴* *a⁵* for receiving the water feed or inlet and supply or exit pipes. It also has at one end a recess *c* to receive and hold one edge of the fire brick of that end, and at the other end a vertical ledge *c'*, which performs the same office for the fire brick of that end.

There extends from the water front into the combustion chamber one or more short cylindrical sections or pipes A', see Figs. 1, 2, 3, 4, 5 and 6, which may extend entirely across the combustion chamber. They are arranged at the level of the surface of an ordinary fire. In Figs. 1, 2, 3, and 6 I have shown the water front as having one extension of this nature, and it is arranged at the center of the length of the front and so as not to project into the fire pot upon a line with a pot hole. In Fig. 5 I have represented a water front as having three such projections, one between the two pot holes and the others at the outer side of each.

In Fig. 4 I have represented the water front as having between the pot holes a U-shaped section consisting of two horizontal portions, each opening into the cavity of the water-

front and connected at their ends by a short hollow horizontal section. These outer sections, except the one last named, may have partitions extending to very nearly their outer
5 ends for the purpose of facilitating the circulating of the water through them, (see Fig. 6.) The extensions may be cast with the front, or they may be independently made and united thereto by screwing into the holes
10 formed therein. I have found that the use of the improved form of front with one or more of these extensions materially increases the heating efficiency of the water front, secures better combustion and increases the heating
15 efficiency of the oven of the stove.

Having thus described my invention, I claim and desire to secure by Letters Patent of the United States—

The combination in a stove or range of the fire-brick B forming the lower section of one 20 wall of the combustion chamber, the water front A mounted upon or over said fire-brick B and having one or more extensions projecting from it into the fire-pot and an inlet and outlet thereto, substantially as described.

FRANK A. MAGEE.

Witnesses:

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