

No. 749,938.

PATENTED JAN. 19, 1904.

F. MAY.
FURNACE FOR STEAM GENERATORS.

APPLICATION FILED AUG. 24, 1903.

NO. MODEL.

Fig. 1.

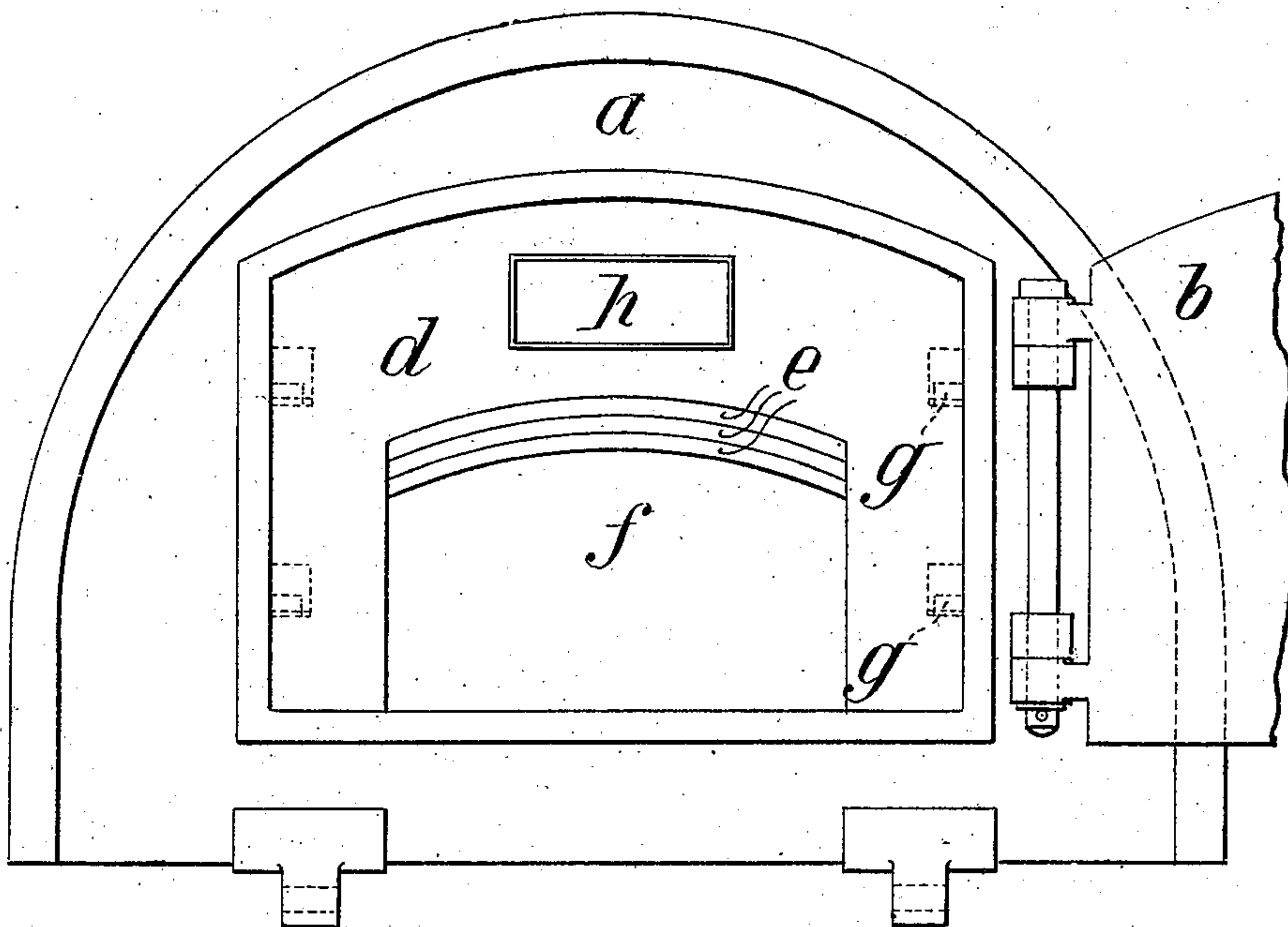
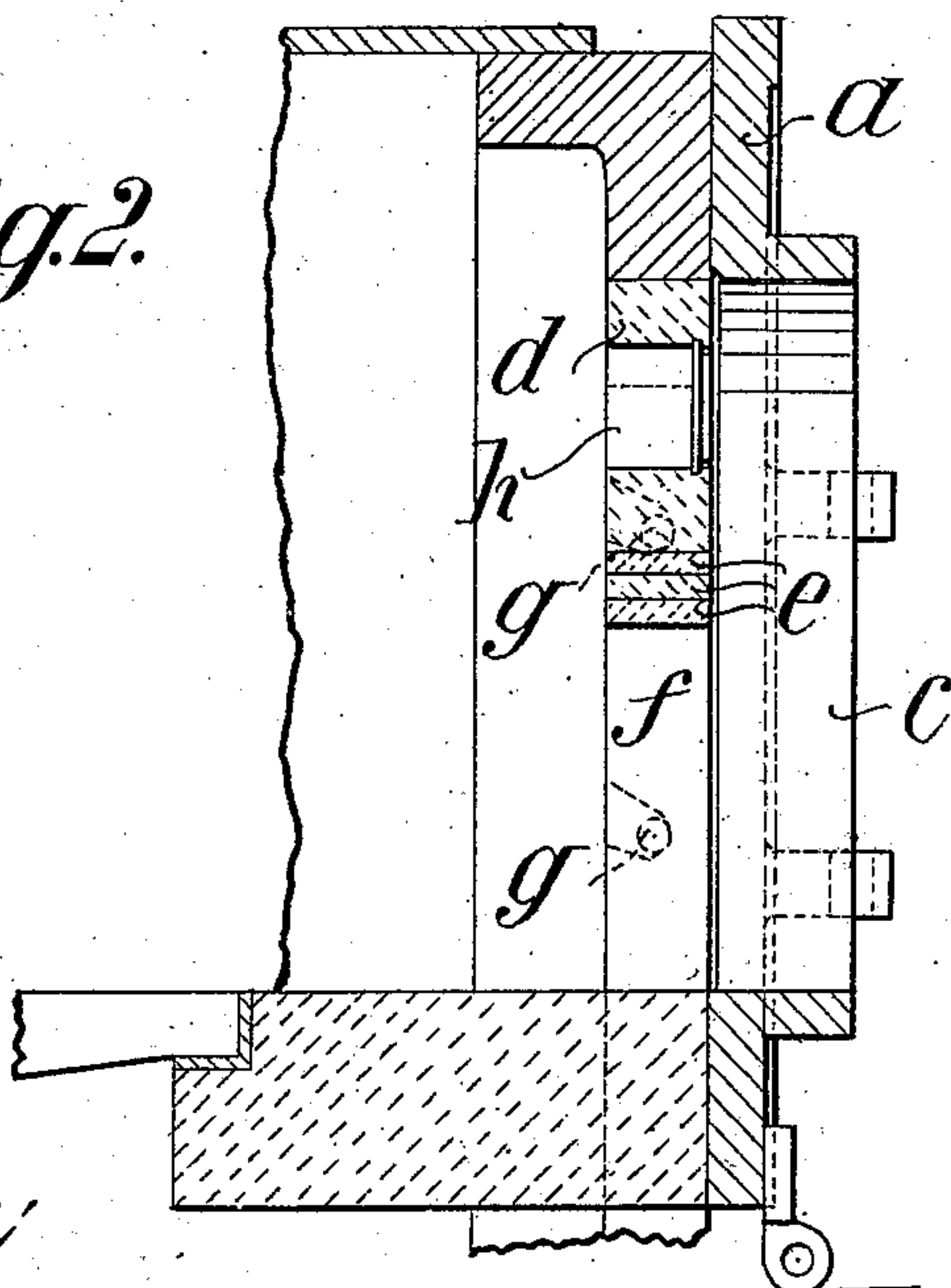


Fig. 2.



Witnesses:

W. B. Keefe
A. L. Bryan

Inventor

Franz May

By

James L. Norris
Atty.

UNITED STATES PATENT OFFICE.

FRANZ MAY, OF HATSCHEN, NEAR OLMÜTZ, AUSTRIA-HUNGARY.

FURNACE FOR STEAM-GENERATORS.

SPECIFICATION forming part of Letters Patent No. 749,938, dated January 19, 1904.

Application filed August 24, 1903. Serial No. 170,602. (No model.)

To all whom it may concern:

Be it known that I, FRANZ MAY, a subject of the Emperor of Austria-Hungary, residing at Hatschein, near Olmütz, in the Province of Moravia, Austria-Hungary, have invented certain new and useful Improvements in Furnaces for Steam-Generators, of which the following is a specification.

It has long been recognized that a defect in steam-generator furnaces as usually constructed consists in the fact that by opening the fire-door for charging the furnace with fuel a large quantity of cold and therefore prejudicial air is admitted to the grate.

In accordance with this invention a fitting is arranged in the fire-door opening which in case of need may either be removed by itself or together with the door-plate. This fitting consists, essentially, of a plate leaving only just such an aperture as is absolutely necessary for charging the furnace. The opening in this fitting, which, if desired, may be made adjustable as to size, is so small that the interior of the boiler is not accessible for inspection until the fitting or the whole of the door-plate has been removed, and only about a fourth of the air which has hitherto been able to enter above the grate through the full door-opening can now enter. The access of air beneath the grate is not, however, in any way impeded. The fitting also prevents for the most part any escape of heat when the fire-door is open, and like this latter may advantageously be provided with an inspection-aperture, so that the fire may be observed on every side.

In order that my invention may be readily understood and carried into effect, I will describe the same fully with reference to the accompanying drawings, in which—

Figure 1 is a front elevation of the fire-door plate of a steam-generator provided with my improved device, and Fig. 2 is a vertical section through the same.

The door-plate *a* is provided inside the frame of the opening *c* for the fire-door *b* with a fitting *d*, which consists of an iron, steel, or chamotte plate which is arranged either fixed or removably in the fire-door-plate opening, a tight joint being made at its edge in the latter case. This plate is preferably yoke-shaped

and leaves a charging-aperture *f*, which is small as compared with the door-plate opening *c*. This opening *f* is bordered upon both sides by yoke-supports resting upon the bottom edge of the frame of the door-plate opening *c*, the vertical inner edges of which supports may be arranged either parallel with the inner edge of the door-plate opening or inclined thereto. In the latter case the charging-opening flares somewhat outward toward the interior of the furnace. The upper boundary of the charging-opening, which is preferably slightly arched, may be constituted by removable plates *e*, by means of which the opening *f* may in case of need be still further reduced in size. In the construction shown it is only necessary in order to effect this object to remove the plate *d*, which may, for example, be provided with lateral recesses in order that these may be passed upon pins *g*, projecting in the door-plate opening, so that when arranged in the proper position it is firmly held, while at the same time it is readily removable. The plate *d* may, however, be hung on hinges in the door-plate opening.

For the purpose of inspecting the fire and in order to facilitate the charging of the grate and the proper distribution of the fuel thereon there is arranged above the charging-aperture *f* in the plate *d* a glazed inspection-opening *h*, which corresponds to a similar inspection-opening formed in the fire-door.

The fitting or insertion-piece may be made either solid or hollow, or it may be cast with reinforcing-ribs.

I claim—

1. A fitting for steam-generating furnaces adapted to decrease the amount of air admitted above the grate when the fire-door is opened consisting of the combination with the door-frame of the generator, of means mounted therein and supported thereby for decreasing the size of the fire-door opening.

2. A fitting for steam-generating furnaces adapted to decrease the amount of air admitted above the grate when the fire-door is opened consisting of the combination with the door-frame of the generator, of adjustable means therein and supported thereby for decreasing the size of the fire-door opening.

3. A fitting for steam-generating furnaces adapted to decrease the amount of air admitted above the grate when the fire-door is opened consisting of the combination with the door-frame of the generator, of detachable means mounted therein and supported thereby for decreasing the size of the fire-door opening.

4. A fitting for steam-generating furnaces adapted to decrease the amount of air admitted above the grate when the fire-door is opened consisting of the combination with the door-frame of the generator, of detachable and adjustable means mounted therein and supported thereby for decreasing the size of the fire-door opening.

5. A fitting for steam-generating furnaces adapted to decrease the amount of air admitted above the grate when the fire-door is opened consisting of the combination with the door-frame of the generator, of a yoke-shaped frame mounted therein and supported thereby for decreasing the size of the fire-door opening.

6. A fitting for steam-generating furnaces adapted to decrease the amount of air admitted above the grate when the fire-door is opened consisting of the combination with the door-frame of the generator, of a detachable yoke-shaped frame mounted therein and supported thereby for decreasing the size of the fire-door opening.

7. A fitting for steam-generating furnaces adapted to decrease the amount of air admitted above the grate when the fire-door is opened consisting of the combination with the door-frame of the generator, of an adjustable yoke-shaped frame mounted therein and supported thereby for decreasing the size of the fire-door opening.

In testimony whereof I have hereunto set my hand in presence of two subscribing witnesses.

FRANZ MAY.

Witnesses:

JOSEF RUBASCH,
ALVESTO S. HOGUE.