

(No Model.)

M. PERRET.

OVEN FOR BURNING PULVERULENT FUEL.

No. 268,277.

Patented Nov. 28, 1882.

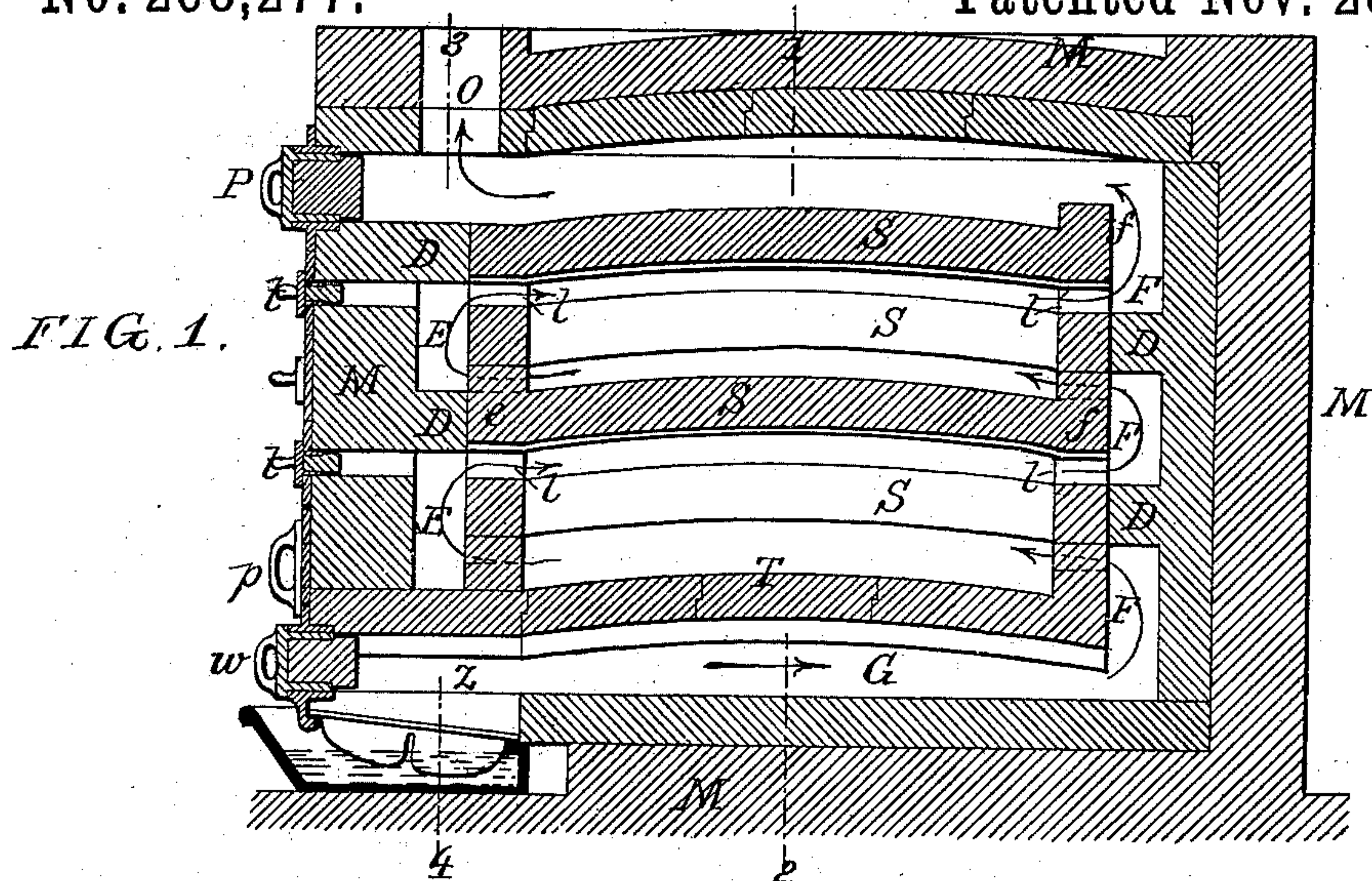


FIG. 1.

FIG. 2.

FIG. 3

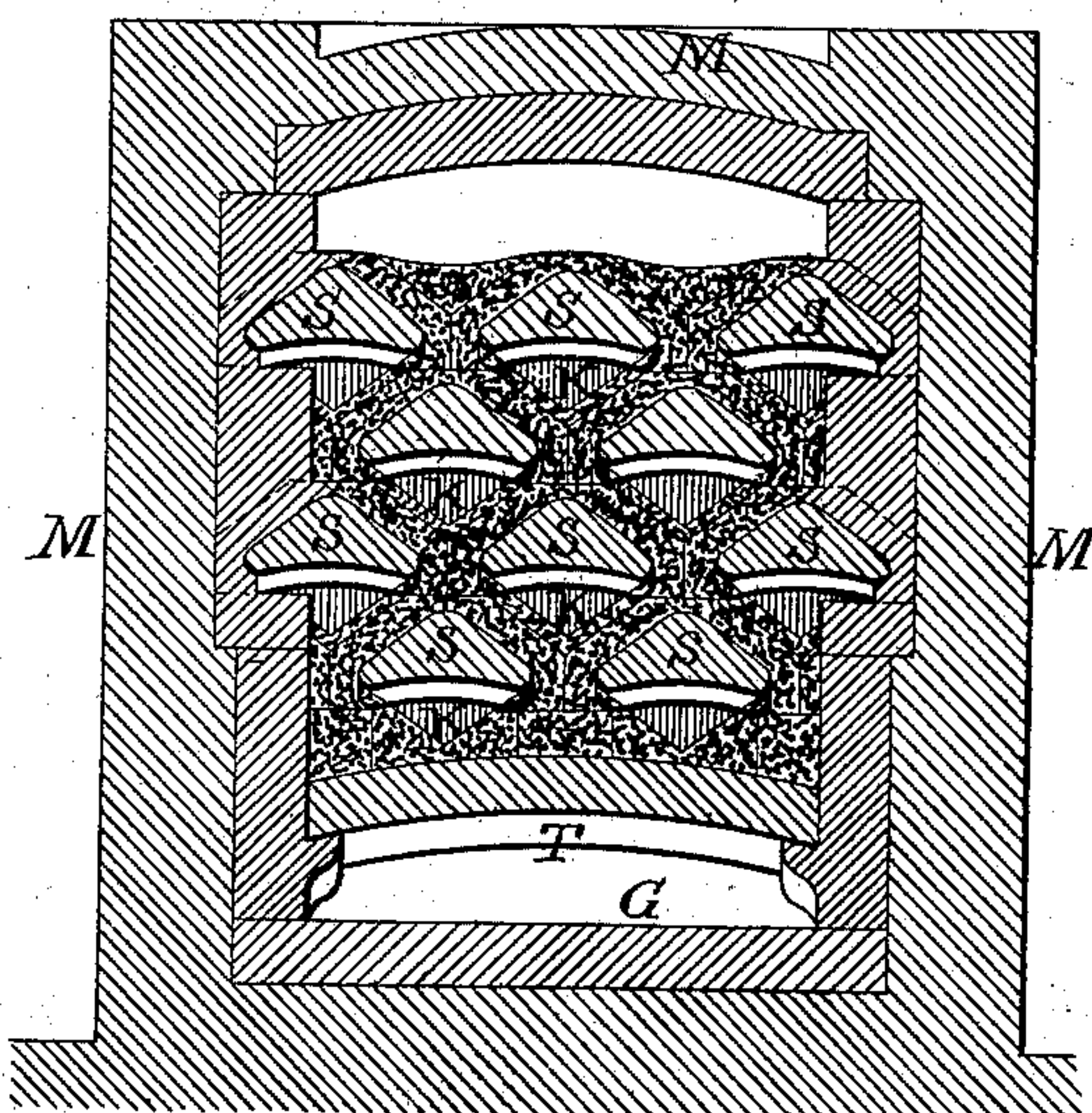


FIG. 4.

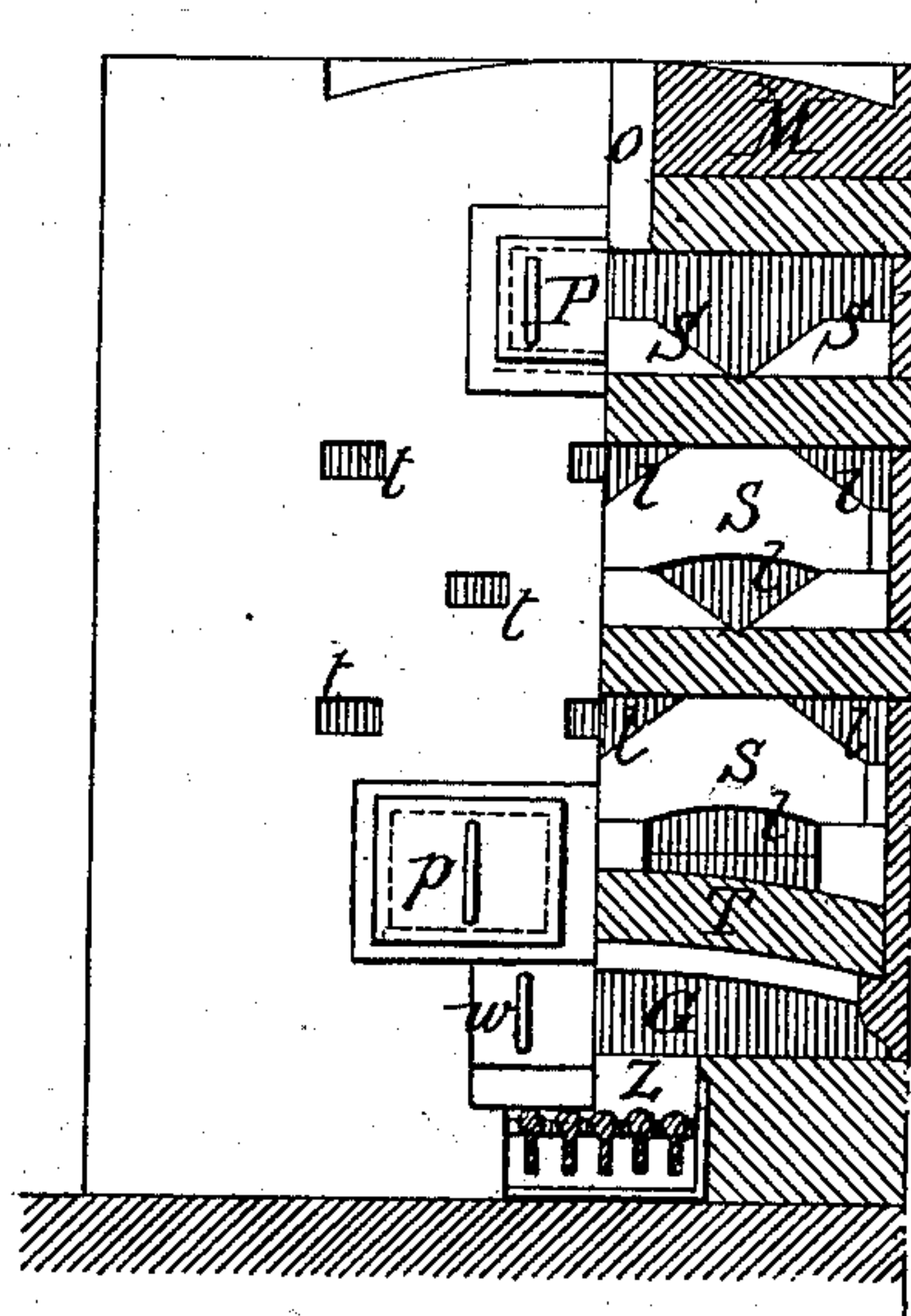
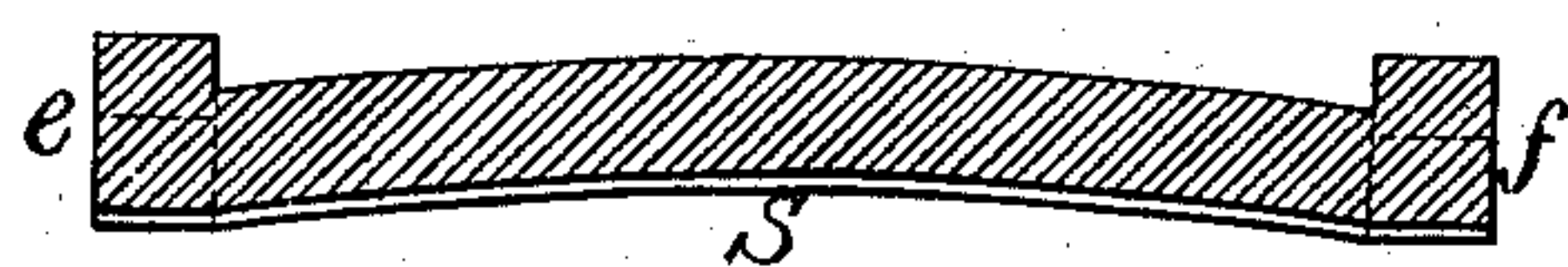


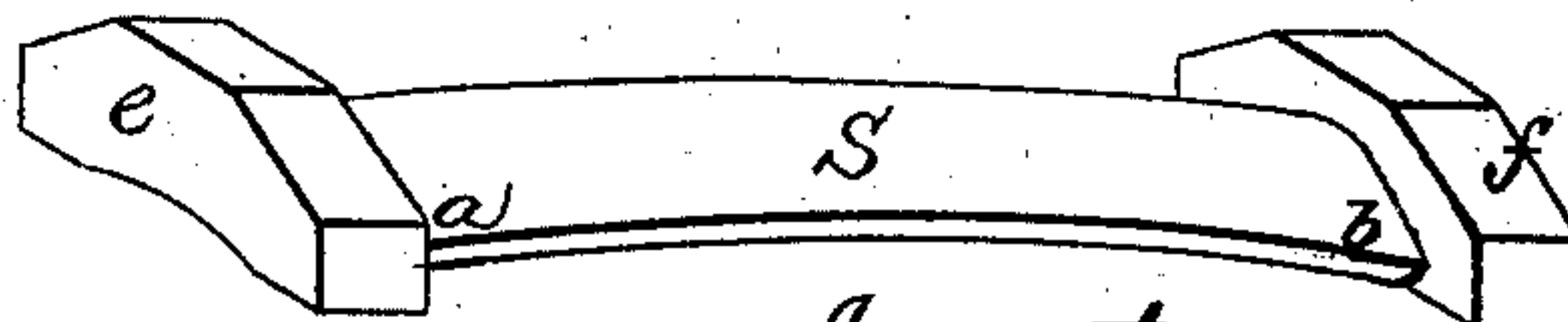
FIG. 6.



FIG 5.



FIG 7.



Witnesses
David Williams

James I. Robin

Inventor:
Michel Perret
by his Attorneys
Howson and Sons

UNITED STATES PATENT OFFICE.

MICHEL PERRET, OF PARIS, FRANCE.

OVEN FOR BURNING PULVERULENT FUEL.

SPECIFICATION forming part of Letters Patent No. 268,277, dated November 28, 1882.

Application filed August 31, 1882. (No model.) Patented in France March 8, 1882, No. 147,781.

To all whom it may concern:

Be it known that I, MICHEL PERRET, a citizen of the Republic of France, and residing in Paris, France, have invented a certain Oven for Burning Pulverulent Fuel, (for which I have obtained a French patent, March 8, 1882,) of which the following is a specification.

The object of my invention is to construct a furnace for the economical and effective burning of pulverized fuel; and this object I attain in the manner which I will now proceed to describe, reference being had to the accompanying drawings, in which—

Figure 1 is a longitudinal section of my improved furnace; Fig. 2, a section on the line 1 2, Fig. 1, showing the furnace supplied with fuel; Fig. 3, a view partly outside and partly in section on the line 3 4, Fig. 1; Figs. 4, 5, 6, and 7, views of one of the bars or beams detached.

M is the outer masonry of the furnace, within which is built the series of stages of longitudinal bars or beams S, arranged to form a fuel-chamber, as hereinafter described. At the extreme lower front of the structure is a small special grate-bar furnace, Z, for first lighting the fuel in the furnace proper. This furnace Z may be of any ordinary construction, provided with a fuel-door, *w*, and having a flue, G, leading to the flues containing the pulverized fuel; or this furnace may be arranged at any other convenient point. The arched roof T of the flue G forms the floor of fuel-chamber of the furnace proper, and the front of the latter is provided, on a level with this floor, with discharging-doors *p* for the ashes. Over this floor T are built up the series of bars or beams S, the form of which is illustrated in Figs. 4, 5, 6, and 7. They are made of fire-proof clay or similar material, and each is approximately triangular in cross-section, so as to form two sloping upper sides, while the under side is concave throughout. The bars are preferably arched longitudinally, and their opposite ends are enlarged into the shape of polygonal bricks *e f*, so that when the bars are built up together in stages side by side, as shown in Figs. 2 and 3, the enlarged ends of the bars fitting together, there will be

spaces between adjoining bars, the bars of one stage being in line vertically with the spaces between those of the next stage.

In the front of the furnace, above the top-most row of bars, is a fuel-door, P, through which the pulverized fuel is introduced into the chamber formed by the enlarged ends of the bars and the sides of the furnace, the fuel falling down between the bars, as indicated in Fig. 2, but leaving underneath each bar a channel, which, with the corresponding openings, between the enlarged ends of adjoining bars, form flues K through the fuel itself.

Vertical connecting-flues E F are formed at opposite ends of the fuel-chamber, and are provided with blocks D D, which compel the products of combustion to take the circuitous course pointed out by the arrows in Fig. 1, O being the exit-flue for the gases.

Immediately opposite the under side of each bar S the front is provided with stoppered openings *t*, through which the fuel may be stirred or passages cleared, although under ordinary circumstances the fuel will fall down as it is consumed and form or leave the passages *k* clear without any attention from the stoker.

Air is supplied to the furnace through the doorways *p p* or openings *t*, or through openings specially constructed for the purpose. There is thus a free circulation of air and products of combustion through flues formed in the fuel itself, which feeds itself downward between the bars as it is consumed, and thus automatically presents fresh fuel to the action of the air.

I claim as my invention—

1. A furnace for burning pulverized fuel, provided with a fuel-chamber having a number of bars passing through it, and openings at opposite ends in line with the under sides of the bars, so as to form flues through the fuel.

2. A furnace having a fuel-chamber built up of bars with sloping upper surfaces and enlarged ends, substantially as and for the purpose set forth.

3. A furnace having a fuel-chamber built up of bars with sloping upper surfaces, con-

cave under sides, and enlarged polygonally-shaped ends.

4. A furnace having a fuel-chamber built up of bars, with enlarged polygonally-shaped ends fitted together, but leaving openings between them in line with the under sides of the bars, in combination with connecting-flues
E F.

In testimony whereof I have signed my name to this specification in the presence of two subscribing witnesses.

MICHEL PERRET.

Witnesses:

ALFRED COINY,

ROBT. M. HOOPER.