(No Model.)

S. S. FRACKELTON.

APPARATUS FOR FIRING CHINA.

No. 386,395. Patented July 17, 1888.

Fig. 1.

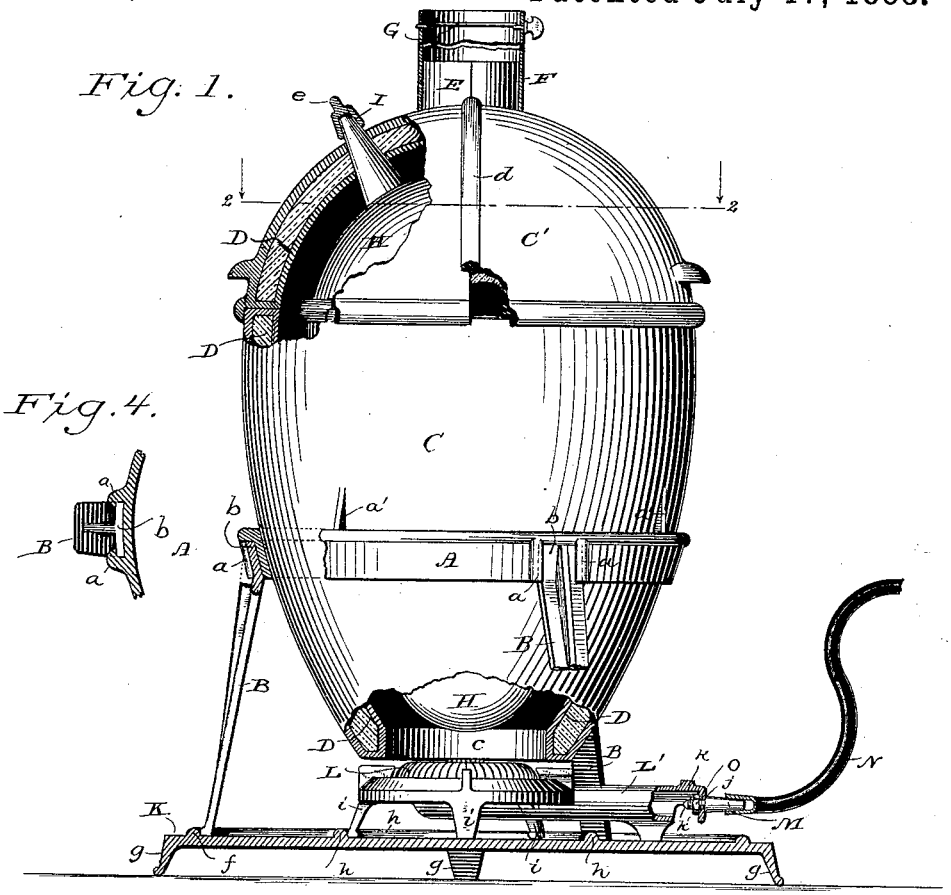


Fig. 4.

Fig. 3.

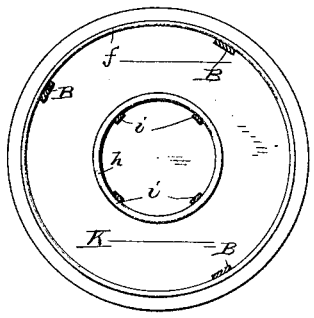


Fig. 2.

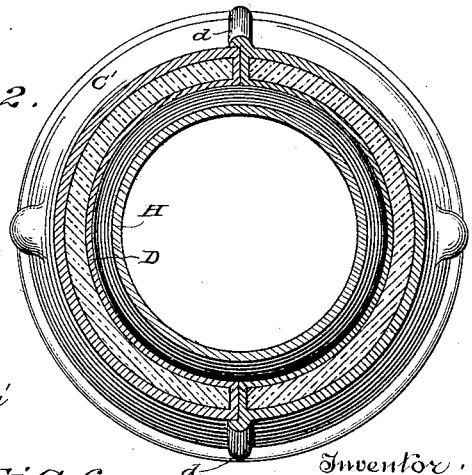


Fig. 5.

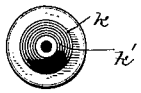
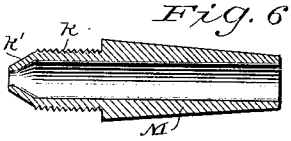


Fig. 6.



Witnesses,
Geo. W. Young,
N. E. Oliphant,

Inventor,
Susan S. Frackelton
By Stinstra & Woodward
Attorneys

UNITED STATES PATENT OFFICE.

SUSAN S. FRACKELTON, OF MILWAUKEE, WISCONSIN.

APPARATUS FOR FIRING CHINA.

SPECIFICATION forming part of Letters Patent No. 386,395, dated July 17, 1888.

Application filed November 17, 1887. Serial No. 255,383. (No model.)

To all whom it may concern:

Be it known that I, SUSAN S. FRACKELTON, of Milwaukee, in the county of Milwaukee, and in the State of Wisconsin, have invented certain new and useful Improvements in Apparatus for Firing China; and I do hereby declare that the following is a full, clear, and exact description thereof.

My invention relates to an apparatus for firing decorated china, being an improvement on the device set forth in my patent, No. 349,935, dated September 28, 1886; and it consists in certain peculiarities of construction and combination of parts, to be hereinafter described with reference to the accompanying drawings, and subsequently claimed.

In the drawings, Figure 1 represents a side elevation of my apparatus, partly broken away; Fig. 2, a horizontal section taken on line 2 2, Fig. 1; Fig. 3, a plan view of a hearth that forms part of my apparatus; Fig. 4, a detail sectional view of the supporting ring and leg; Fig. 5, an end view of a nipple that forms part of my invention, and Fig. 6 a longitudinal section of the nipple.

Referring by letter to the drawings, A represents a ring exteriorily provided with sockets *a* for the upper ends of detachable legs B, this construction serving as a stand for the firing apparatus. By having the legs B detachably connected to the supporting-ring A, I am enabled to dismount the stand and economize space when packing the same.

Designed to rest within the ring A is the body portion of an outer shell, C, that has a removable top, C′, and an opening, *c*, in its bottom. In my former patent the top C′ was in one piece; but in order to render the same more convenient and less heavy to handle I now make it in two sections and provide one section with a flange, *d*, that comes over upon the other section to make a lap-joint, as illustrated by Figs. 1 and 2. The shell C is also provided with lugs *a*′, that rest upon the ring A to prevent said parts from binding.

Heretofore I have employed fire-clay or analogous material as a lining for the outer shell, C, and its top C′; but in the present instance I make said parts with an inner wall, D, and fill the spaces or chambers thus formed with sand or other suitable material. This construction is less expensive and requires no truing up to get a uniform thickness throughout the shell and its top. The sections constituting the top C′ are provided with vertical upwardly-extended flanges that form an outlet, E, over which is placed a smoke-pipe, F, provided with a damper, G. Suitably suspended within the outer shell, C, is a china-containing receptacle, H, these parts forming what is termed a "kiln," said receptacle being similar in construction to the one shown and described in my former patent, and provided with a hollow conical extension, I, that passes through and projects beyond said outer shell to serve as a peep-hole. Instead of a plug, I employ a removable cap, J, for the peep-hole, said cap being provided with a lug, *e*, that serves as a handle.

The lower ends of the legs B, that form part of the supporting frame or stand for the kiln, rest inside a circular bead, *f*, on a hearth, K, the latter being provided with legs *g*, as illustrated in Fig. 1, said bead serving to prevent displacement of the supporting-stand and kiln. The hearth K is also provided with another circular bead, *h*, and against the inner circumference of the latter bead the legs *i* of a gas-burner, L, rest upon the hearth K, immediately below the opening *c* in the outer shell, C, of the kiln. The bead *h* prevents displacement of the burner L, and consequently the latter is always accurately centered, so that the heat therefrom will act equally on all parts of the receptacle H that forms part of the kiln, this result being absolutely necessary to the successful firing of china.

The burner L has an outwardly-extended hollow arm, L′, cut away at its outer end to admit sufficient air to insure combustion, and passed through a perforation, *j*, in said end of the arm is the tip *k* of a nipple, M, the latter having slipped thereon a flexible tube, N, designed to connect with a source of gas-supply.

The tip *k* of the nipple M is screw-threaded to receive a set-nut, O, and enable it to be screwed in or out according to the pressure of the gas being used at any time, and has a conically-reduced inner end, *k*′, which is filed or ground off in proportion to the pressure of the

gas. When natural gas is employed, only a small opening is required in the tip; but for manufactured gas a larger opening is necessary, as the pressure is materially less. So far as I am aware I am the first to construct a china-firing apparatus that could be fired by natural gas, and it is by the peculiar construction of the nipple M that I obtain this result. As the pressure of natural gas as well as manufactured gas differs in different localities, and it is necessary that there should at all times be a sufficient amount of either passing through the tip *k* of the nipple M to produce the best possible result in firing the kiln, it is essential that said tip be made as above described, in order that the orifice therein may be enlarged in proportion to any diminished pressure below a certain standard.

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

1. An apparatus for firing china, comprising a kiln having an opening in its bottom, a gas-burner in register therewith provided with an outwardly-extended hollow arm, and a nipple provided with a screw-threaded tip that passes through the outer end of said arm and has a conically-reduced inner end, substantially as set forth.

2. In a china-firing apparatus, the combination of a supporting-stand, a suitable kiln provided at its bottom with an opening, a hearth having a centrally-located circular bead, and a heat-generator arranged on the hearth within and in contact with the bead to register with the bottom opening in the kiln, substantially as set forth.

3. In a china-firing apparatus, the combination of a supporting-ring mounted on legs, a suitable kiln provided at its bottom with an opening, a hearth having a circular outer bead and a similar inner bead, and a heat-generator arranged on the hearth within and in contact with said inner bead to register with the bottom opening in the kiln, and the said stand in contact with the said outer bead, substantially as set forth.

4. In a china-firing apparatus, the combination of a supporting-stand, a kiln having lugs thereon that rest upon the stand, and a removable top, an inner receptacle, and a heat-generator for firing said kiln, substantially as set forth.

5. In a china-firing apparatus, a kiln comprising a china-containing receptacle and a double-walled outer shell filled with sand or other analogous material, substantially as set forth.

In testimony that I claim the foregoing I have hereunto set my hand, at Milwaukee, in the county of Milwaukee and State of Wisconsin, in the presence of two witnesses.

SUSAN S. FRACKELTON.

Witnesses:

E. H. GOODRICH,

N. E. OLIPHANT.