E. LEAK.

THIMBLE-PINS FOR SUPPORTING POTTERY WARE IN KILNS.

No. 186,585. Patented Jan. 23, 1877.

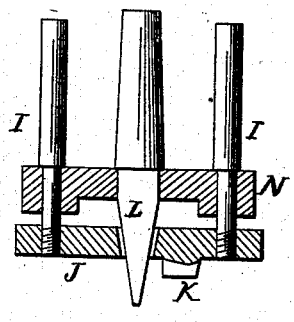
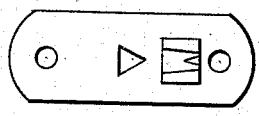



Fig. 1.

Fig. 3.



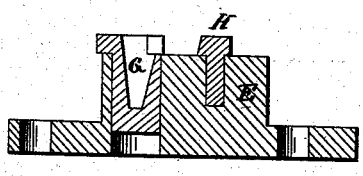



Fig. 5.

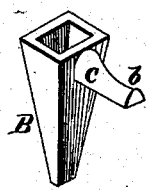



Fig. 4.

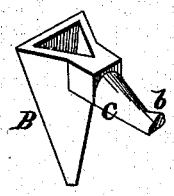



Fig. 2.

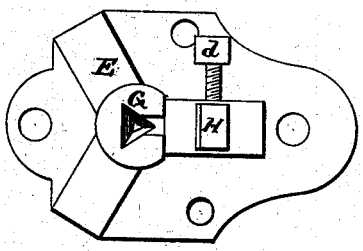
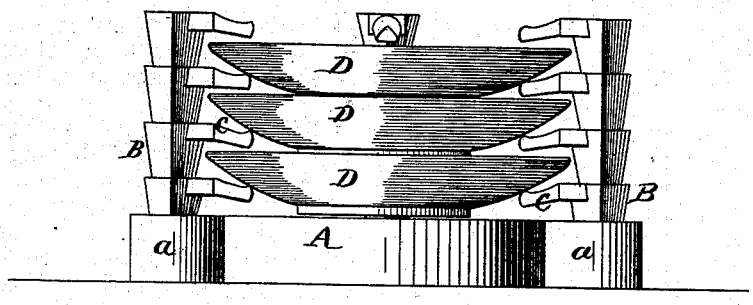



Fig. 6.




WITNESSES:

Henry N. Miller

F. L. Durand

INVENTOR,

Elias Leak,

By Alexander Mason.

Attorneys.

# UNITED STATES PATENT OFFICE.

ELIAS LEAK, OF TRENTON, NEW JERSEY.

## IMPROVEMENT IN THIMBLE-PINS FOR SUPPORTING POTTERY-WARE IN KILNS.

Specification forming part of Letters Patent No. **186,585**, dated January 23, 1877; application filed July 13, 1876.

*To all whom it may concern:*

Be it known that I, ELIAS LEAK, of Trenton, in the county of Mercer, and in the State of New Jersey, have invented certain new and useful Improvements in Thimble-Pins for Placing Glassware in Kilns for Firing or Burning; and do hereby declare that the following is a full, clear, and exact description thereof, reference being had to the accompanying drawings, and to the letters of reference marked thereon, making a part of this specification.

The nature of my invention consists in the construction of a thimble-pin for supporting crockery-ware in ovens or kilns while being burned, and also in the construction of the die for making said pins, as will be hereinafter more fully set forth.

In order to enable others skilled in the art to which my invention appertains to make and use the same, I will now proceed to describe its construction and operation, referring to the annexed drawing, in which—

Figure 1 is a section of the machine for making the thimble-pins. Fig. 2 is a plan view of the lower or female die. Fig. 3 is a bottom view of the upper or male die. Figs. 4 and 5 are perspective views of the thimble-pins. Fig. 6 shows the application of my invention.

A represents the bed or base, provided with outward-projecting ears *a a a* at equal distances apart. In each of these projections is inserted a thimble-pin, B, provided with a projecting pin, C. This thimble-pin is made of tapering angular form, having three sides, as shown in Fig. 4, and the arm C projects from one corner thereof at the top. This arm is inclined slightly downward, rounded on top, and at its end on top is formed a pointed spur, *b*. When the three thimble-pins thus constructed have been inserted in the projections *a* of the base A, a saucer or other article, D, is placed on the arms C C, such article being supported upon the points of the three spurs *b*, as shown in Fig. 6. In each of the thimble-pins B is then inserted another similar pin, the arm of which extends above, but not in contact with, the saucer D. Another saucer is placed on the arms of such second set of pins, and so on, as many as may be desired. The thimble-pins B B may be made four-sided and wedge-shaped, as shown in Fig. 5.

The machine for making these thimble-pins consists of a bed, E, with the lower or female die G fastened therein. There is also a beveled or inclined stop, H, fastened by a set-screw, *d*, for forming the outer end of the arm.

N is a fixed bar, through which pass two guide-pins, I I, having their lower ends screwed into a loose bar, J. On the under side of the bar J is the die K, for forming the arm C of the thimble-pin. L is the mandrel that forms the inside of the thimble-pin, which mandrel passes through and is attached to the fixed bar N, and through a corresponding opening in the loose bar J, so that said bar can move up and down on said mandrel.

As the upper part of the machine descends, the point of the mandrel enters the die G′, and when the bar J and its die K come down in position the mandrel still continues to descend for a short distance. Then, at the upward stroke, the mandrel moves a certain distance before the bar J commences to move.

I am fully aware that thimble-pins having a round tapering exterior and openings of corresponding shape are not new. In such case any disturbance of the thimble-pins will turn them, and of course disturb the ware supported by them.

By making the thimble-pins of angular tapering form, the sides fitting closely together, they are prevented from being put out of place by any movement of the ware.

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

1. The angular tapering thimble-pin B, provided with the arm C, having a pointed spur, *b*, on its top at the outer end, substantially as and for the purposes herein set forth.

2. The combination of the bed E, with die G and stop H, the fixed bar N, mandrel L, guide-pins I I, and bar J, with die K, all substantially as and for the purposes herein set forth.

In testimony that I claim the foregoing I have hereunto set my hand this 24th day of June, 1876.

ELIAS LEAK.

Witnesses:
C. L. EVERT,
JOHN H. WHITTAKER.