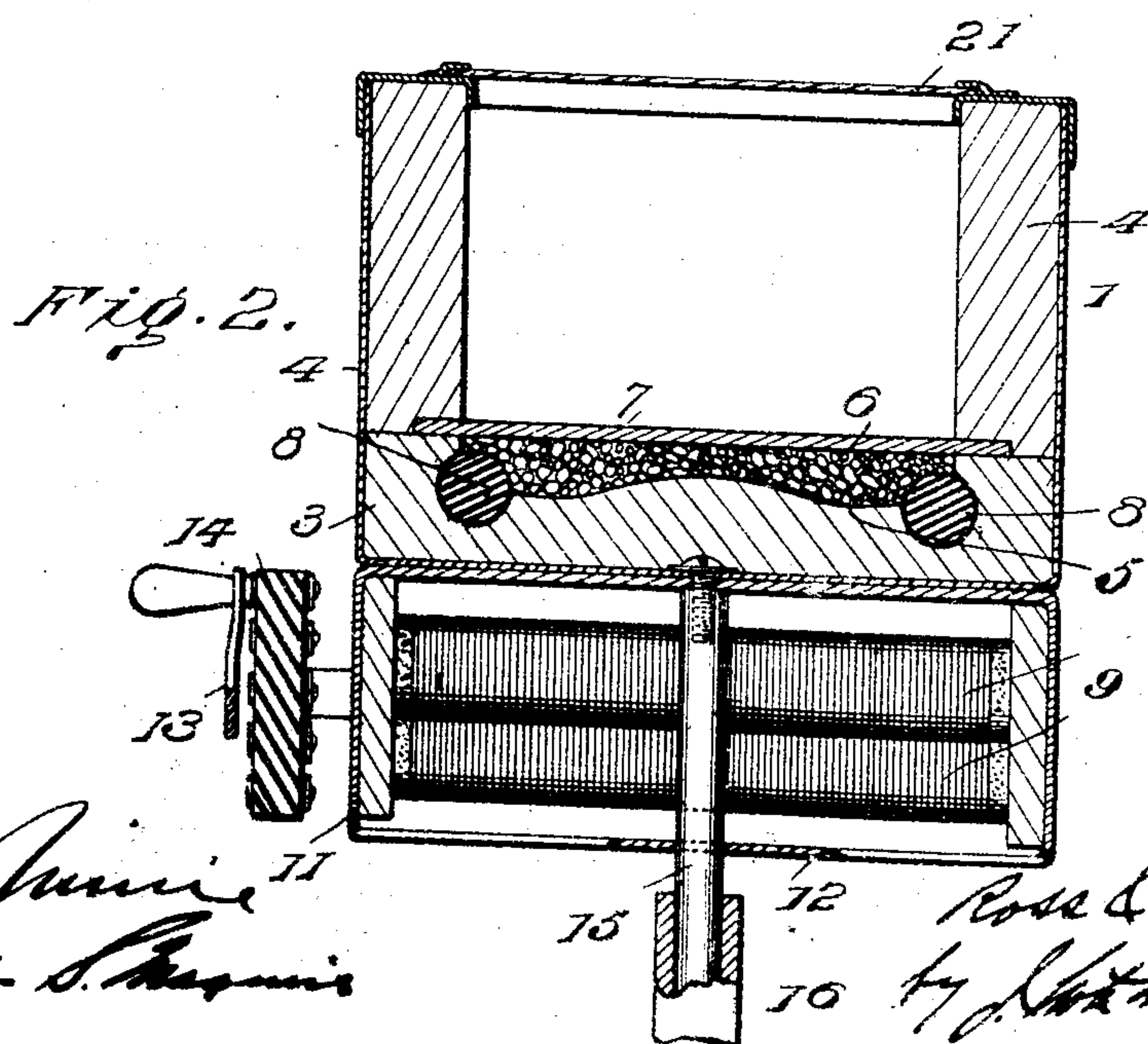
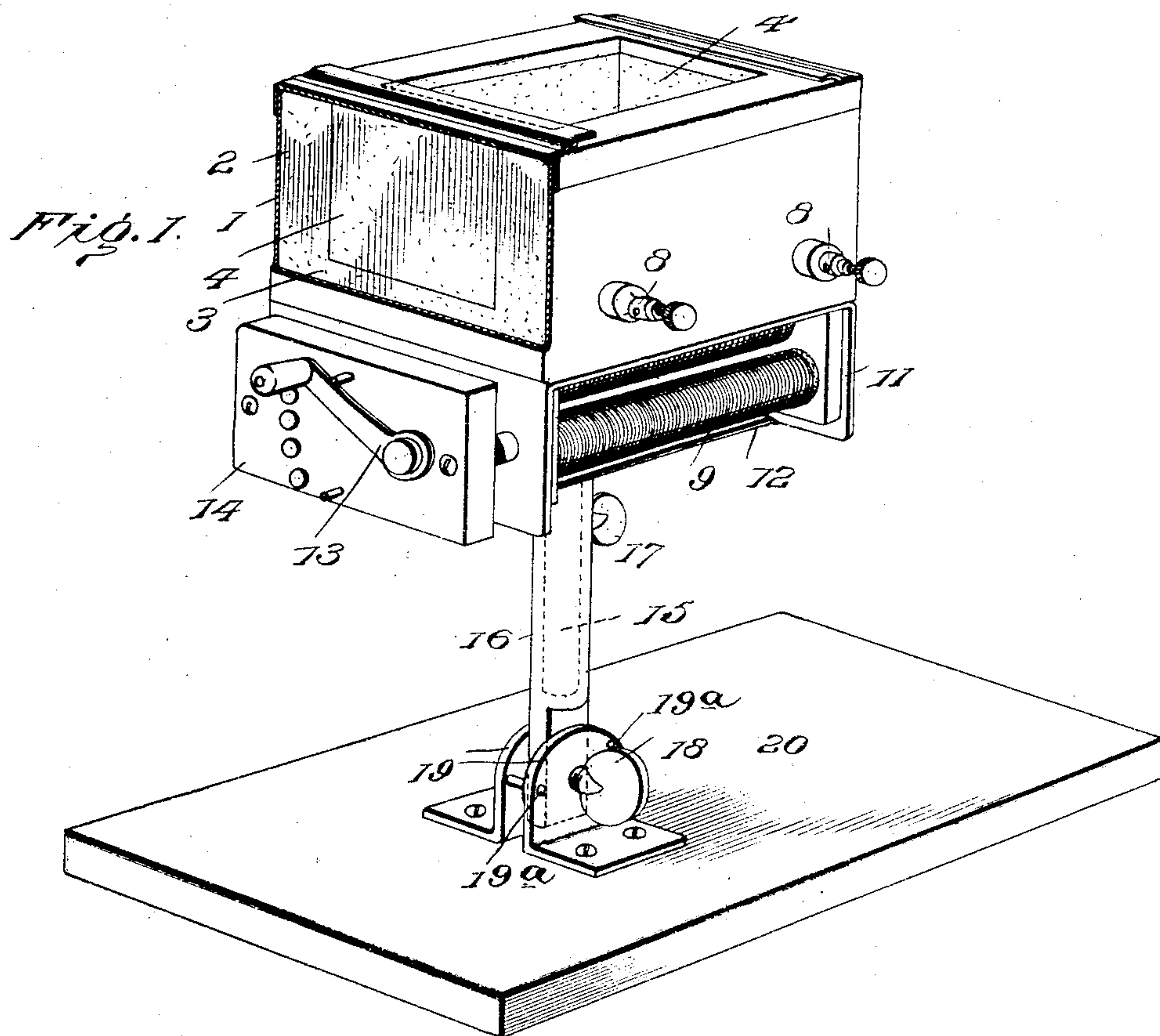


No. 860,587.

PATENTED JULY 16, 1907.

R. C. UNGER.
ELECTRIC FURNACE.
APPLICATION FILED JULY 25, 1906.



Witnesses

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UNITED STATES PATENT OFFICE.

ROSS C. UNGER, OF CLEVELAND, OHIO.

ELECTRIC FURNACE.

No. 860,587.

Specification of Letters Patent.

Patented July 16, 1907.

Application filed July 25, 1906. Serial No. 327,686.

To all whom it may concern:

Be it known that I, ROSS C. UNGER, of Cleveland, in the county of Cuyahoga and State of Ohio, have invented certain new and useful Improvements in Electric Furnaces; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same.

The primary object of this invention is to provide an electrical furnace especially adapted for dental, metallurgical, chemical and like purposes.

A further object is to so locate means for controlling the current that the heat generated thereby may be utilized in heating the furnace.

A further object is to enable the operator to readily inspect the interior of the furnace without danger of loss of heat.

A further object is to retain the granular resistance in position by means forming the bottom of the oven. And a further object is to enable the furnace and oven to be tilted to obtain a better light within the oven, and also to insure the flow of solder.

The invention will be hereinafter fully set forth and particularly pointed out in the claims.

In the accompanying drawings, Figure 1 is a view in perspective, partly in section. Fig. 2 is a central longitudinal sectional view.

Referring to the drawings, 1 designates an inclosing casing composed preferably of thin metal; and 2 opposite side linings of refractory material formed with the base slab 3. The opposite side linings 4 are in the form of removable slabs which fit snug between linings 2. The base has a pocket 5 for a mass 6 of resistance material, preferably carbon graphite known as kryptol. This resistance material is retained in pocket 5 by a thin slab 7 likewise of refractory material, the same being held in place by the side linings 4. This retaining slab also forms the bottom of the oven-chamber.

Extending transversely of the furnace, at opposite sides of pocket 5, are two carbon electrodes 8 which are electrically connected with resistance coils 9 of a rheostat, which coils are mounted in a frame 11 secured to the underside of the furnace, the sides of said frame being connected by a cross bar 12. The switch arm 13 of the rheostat is mounted on a switch board 14 secured to one end of frame 11. By thus locating the resistance coils of the rheostat directly beneath the furnace the heat generated by such coils is utilized in heating the furnace.

From the bottom of the furnace depends a rod 15 which passes through bar 12 and fits in the upper tubular end of a second rod 16, wherein it is held by a thumb screw 17. By loosening the latter the furnace may be revolved in either direction. The rod 16 at its lower

end is pivotally secured by a thumb screw 18 between two upwardly extended flanged plates 19 attached to a base board 20, such plates being secured to such base board to one side of the center thereof, so that if the furnace be tilted toward the further end of the base the latter will not tilt by the shifting of the center of gravity. Stop pins 19^a are inserted through two openings in one of the flanged plates for limiting the movement of the rod 16 toward either end of the base 20. By thus tilting the furnace better light may be secured for viewing the objects within the oven, and when solder is being melted it may be caused to flow by gravity in any desired direction. There is no danger of the granular resistance falling out of place when the furnace is tilted since it is retained securely in the pocket of the base by slab 7.

The oven top is composed of a removable frame which fits over the upper edges of the casing and side slabs, and its opening is provided with a removable sheet 21 of mica or other translucent material. After the heat of the oven has been brought to the desired degree the mica cover may be removed to permit a hand blow pipe being directed on the object being soldered, thus aiding the flow of the solder.

It is manifest that changes may be made in the construction and arrangement of the parts without departing from the scope of the invention.

It will be particularly observed that both the furnace and the oven may be readily tilted without danger of displacing the resistance material, and also that the objects being heated are separated from such resistance material only by the thin slab of refractory material by which the resistance material is retained in place.

I claim as my invention:

1. An electric furnace comprising a casing, refractory linings therefor, granular resistance material located on the bottom of the furnace, and a slab of refractory material for retaining the resistance material in place.

2. An electric furnace comprising a casing, refractory linings therefor composed in part of removable slabs, resistance material at the bottom of the furnace, and a slab of refractory material for retaining the resistance material in place, said slab being held by said linings.

3. An electric furnace having a base of refractory material formed with a pocket, resistance material located in said pocket, and means for retaining the resistance material in place, said means forming the bottom of the oven-chamber.

4. An electric furnace comprising a casing, a base of refractory material formed with a pocket, resistance material located in said pocket, removable linings also of refractory material located above said base, and a slab of refractory material for retaining said resistance material in place, said latter slab being held in place by said linings.

5. In combination, an electric furnace having an oven, a base, a support upon which the furnace and oven are rotatably mounted, and means securing said support to said base permitting the support to be held in different positions relatively to the base.

6. In combination with an electric furnace having an oven, a rod depending from said furnace, a support for said rod, a base, and means for adjustably securing said support to said base.
- 5 7. The combination with the base board, of the furnace having a depending rod, a second rod to which the former rod is secured and upon which the furnace may be turned axially, and means for pivotally connecting said second rod to said base board.
- 10 8. The combination with the base board, of the furnace having a depending rod, a second rod to which the former

rod is secured and upon which the furnace may be turned axially, a binding screw for pivotally securing said second rod to said base, and stops for limiting the movements of said second rod..

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

ROSS C. UNGER.

Witnesses :

GEO. A. GROOT,

ANNA F. SUTHERLAND.