

F. SCHMITZ.

AMALGAM TABLE FOR THE MANUFACTURE OF MIRRORS.

No. 341,948.

Fig. 1. Patented May 18, 1886.

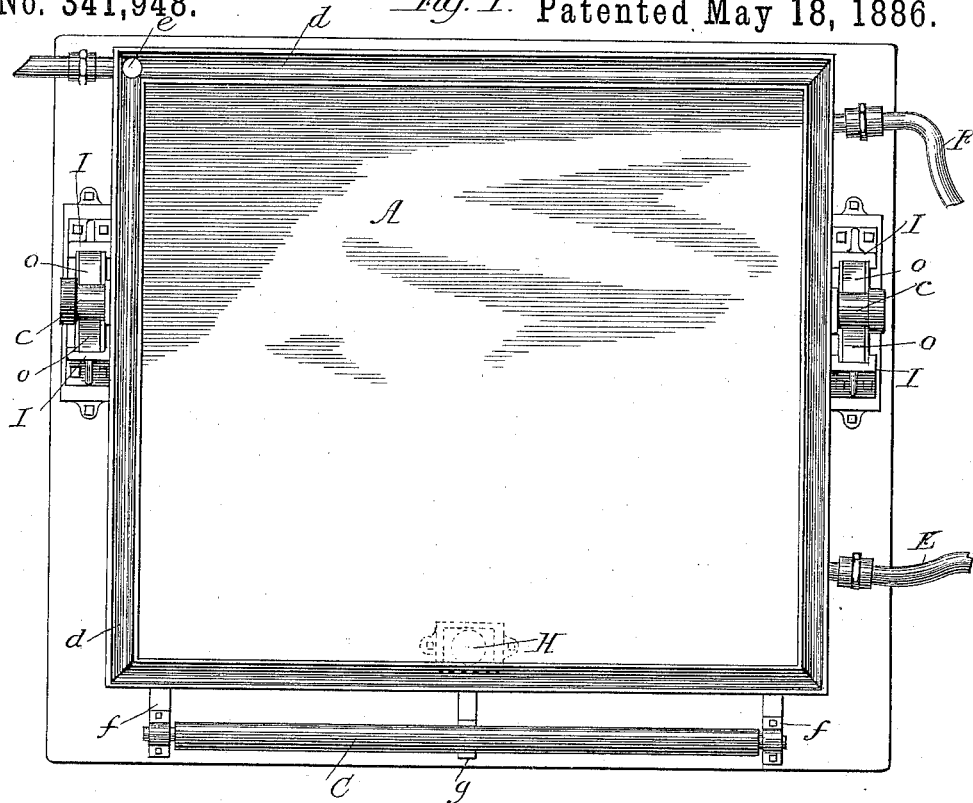
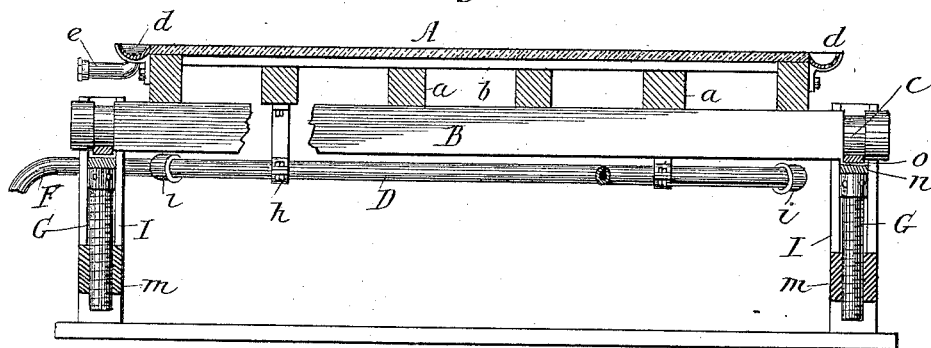


Fig. 2.



Witnesses:
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Anton Schoeninger

Inventor:
Friedrich Schmitz
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Fig. 3.

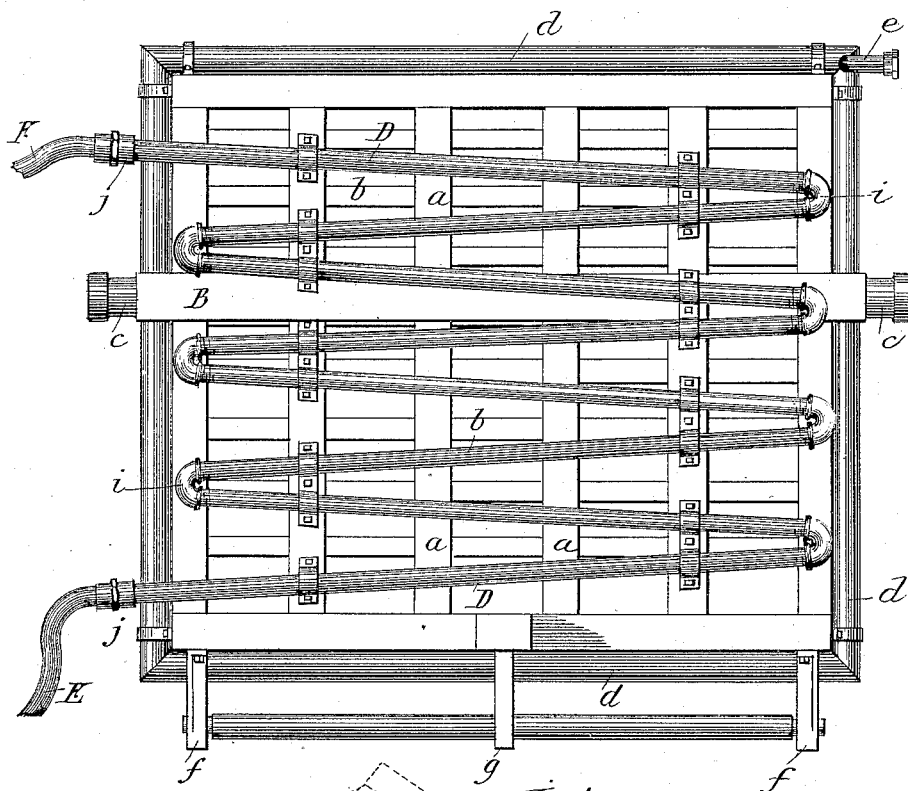


Fig. 4.

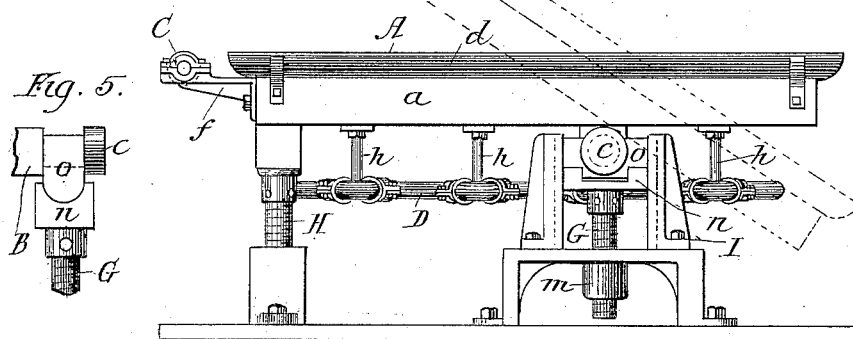
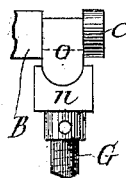


Fig. 5.



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UNITED STATES PATENT OFFICE.

FRIEDRICH SCHMITZ, OF CHICAGO, ILLINOIS.

AMALGAM-TABLE FOR THE MANUFACTURE OF MIRRORS.

SPECIFICATION forming part of Letters Patent No. 341,948, dated May 18, 1886.

Application filed February 16, 1886. Serial No. 192,160. (No model.)

To all whom it may concern:

Be it known that I, FRIEDRICH SCHMITZ, a subject of the Emperor of Germany, residing at Chicago, in the county of Cook and State of Illinois, have invented certain new and useful Improvements in Amalgam-Tables for the Manufacture of Mirrors, of which the following is a specification, reference being had therein to the accompanying drawings.

My invention relates to tables employed in the manufacture of mirrors for coating the glass plate with tin-foil by the amalgam process, and it has for its object to produce such a table that will facilitate and accelerate the process.

My invention therefore principally consists, first, in the supporting such table on three set-screws that will provide a ready adjustment for perfectly leveling the same; secondly, in providing such table with trunnions that will enable its swinging from a horizontal to a vertical position for facilitating the discharge of the mercury and for the removal of the mirror after completion; thirdly, in a roller to one end as a support and guide for the glass plate while placing it upon the table; and, fourthly, in steam-heating pipes secured under such table for accelerating the amalgamating process, all as will be hereinafter more fully described and specifically claimed.

In the accompanying drawings, Figure 1 represents a plan of the table; Fig. 2, a longitudinal vertical section through the table and its pivotal supports; Fig. 3, a bottom view of the table; Fig. 4, a side elevation of the same, and Fig. 5 an end elevation of the journal box.

Corresponding letters in the several figures of the drawings designate like parts.

A denotes the table, made of glass or marble, to be perfectly smooth and true, and resting upon a wooden frame composed of longitudinal beams *a*, and of cross-plates *b*, secured thereupon. At about one-third the entire length of the table is secured under the longitudinal beams *a* the transverse supporting-beam B, having trunnions *c* projecting at each side from under such table.

To the edges of table A are secured channel-plates *d*, that form a continuous trough for collecting the displaced mercury that through nozzle *e* and a hose connected thereto will be returned into the mercury-supply vessel.

Against one end of the table-frame are secured bracket-bearings *f*, between which is pivoted a roller, C, also having a central bearing, *g*.

In suitable hangers, *h*, secured under beams *a*, are suspended steam-radiating pipes D, connected by semicircular couplings *i*, to form a zigzag continuation with each other. One end of this pipe arrangement has connected by a coupling, *j*, a hose, E, that communicates with a steam-generator, and the other end has connected by a similar coupling a hose, F, for leading off the steam.

The table A is supported by three jack-screws, G G and H, the jack-screws G G being tapped each through a hub, *m*, of standard-frames I, the upper parts of which standard-frames form guides for blocks *n*, upon which pivotally rest the journal-boxes *o* for trunnions *c* of transverse beam B. These boxes *o* are thus supported that they can accommodate themselves to different angles of trunnions *c* during the adjustment of the table. The jack-screw H is secured upon the floor under the center of the front end of the table-frame. After the table A has been adjusted by the set-screws G and H to be perfectly level, the tin-foil, that is to be a trifle larger than the mirror-plate, is spread upon such table, and over this tin-foil is distributed mercury to about the even thickness of one-eighth of an inch, to the accomplishment of which glass strips are placed upon the edges of the tin-foil. Now, for placing the glass plate over this tin-foil great care must be taken that such plate, while being shifted from one end, neither will touch and thereby damage the tin-foil nor be raised above the mercury, and thereby allow air to be caught thereunder, that would form blisters; but the advancing edge of the plate must be held sufficiently immersed in the mercury that it will displace a portion of it to collect in the channels *d* and to be carried off through nozzle *e*. It will be readily seen that this placing of the plate is a very tedious operation, particularly with the manufacture of large and heavy mirrors, and still more so without a guide or support for steadying such plate while being moved. For the purpose of facilitating this operation, I have attached the roller C, that will support and guide the plate while being pushed forward. After the glass plate has been placed so as to float upon the continuous

and unbroken sheet of mercury, it is pressed down by loading it with heavy weights, whereby nearly all the mercury is pressed out from between the plate and tin-foil, excepting so much as has amalgamated with the tin. Steam being passed now through the radiator-pipes D, the heat thus applied will accelerate the chemical process of adhering the tin-foil to the glass, that, formerly requiring from three to four days, will be accomplished in four hours, during which time the table is inclined more and more, first by turning the set-screw H and afterward by a rope and tackle, until a nearly vertical position of the table will make it easy for the finished mirror to be removed. While thus inclined the live mercury still adhering will be discharged.

What I claim is—

1. The combination, with a silvering-table, of a roller mounted in bearings secured thereto, as set forth.

2. The combination, with a tilting silvering-table, of a roller mounted in bearings secured thereto, as set forth.

3. The combination, with a silvering-table,

of a trough formed on the edges of the same, said trough provided with a discharge-nozzle and hose, as set forth.

4. The combination, with a silvering-table, of a steam pipe suspended in hangers beneath the table, said pipe extending in a zigzag line across the bottom of the table, and connected at one end to a steam-generator and at the other end to an escape pipe or hose, as set forth.

5. The combination, with a silvering-table, of three screw-supports therefor, two of such supports being arranged forward of the center of the table and upon opposite sides, and the remaining support arranged at the center of the rear end of such table, as set forth.

6. The combination, with frame I, block *n*, and bearing *o*, of strip B, provided with trunnions *c* and table A, as set forth.

In testimony whereof I affix my signature in presence of two witnesses.

FRIEDRICH SCHMITZ.

Witnesses:

ANTON SCHOENINGER,
RAYMOND F. SAYERS,