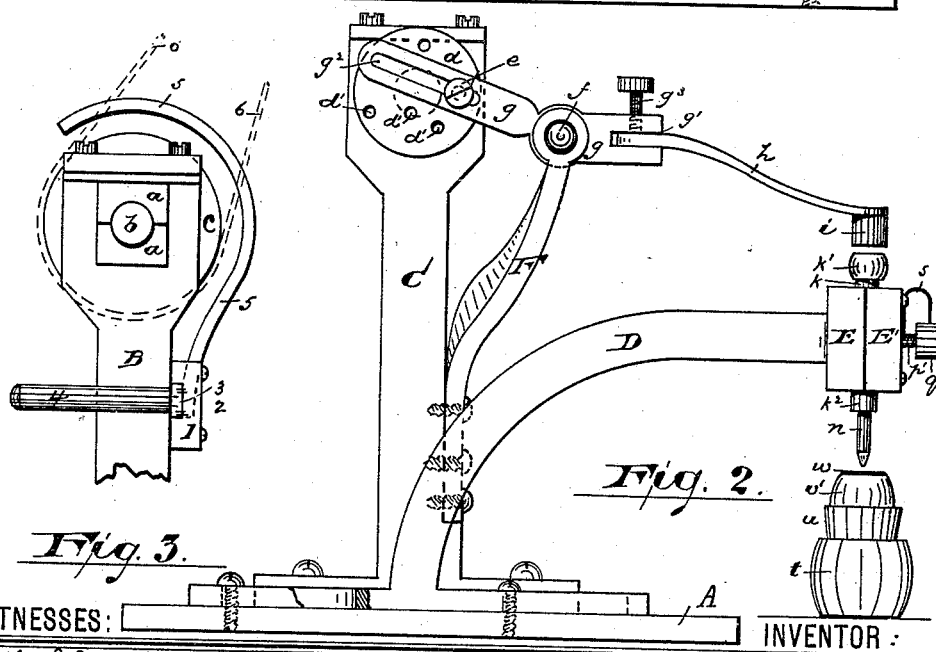
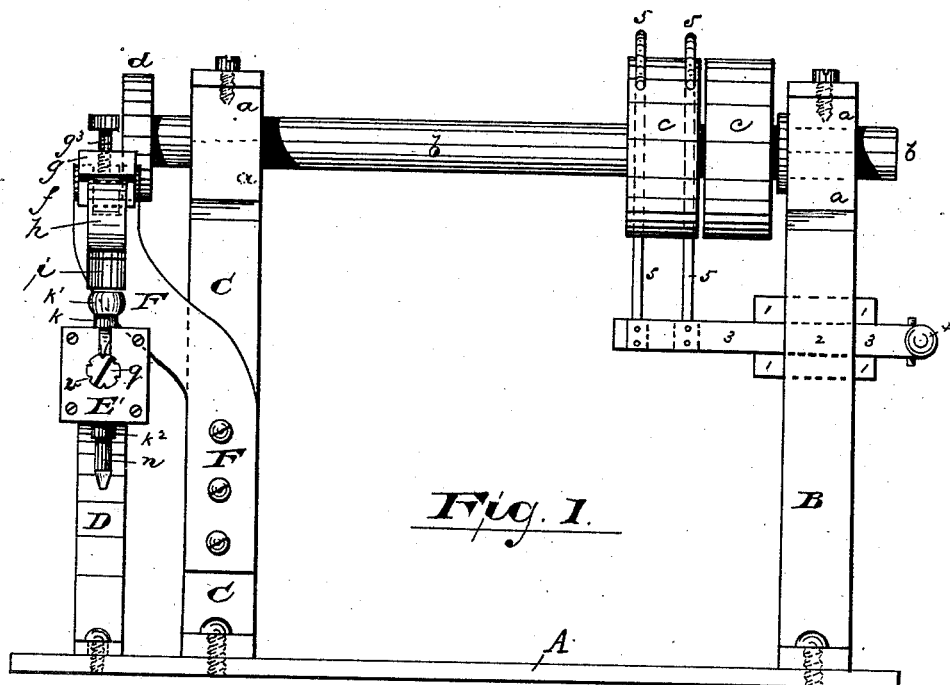


E. GEISEL.

ORNAMENTING AND EMBOSSING MACHINE.

No. 419,847.

Patented Jan. 21, 1890.



WITNESSES:

Alfred Gartner,
E. L. Sherman

INVENTOR

Emanuel Geisel,

BY Drake & Co. ATTY'S.

E. GEISEL.
ORNAMENTING AND EMBOSSED MACHINE.
No. 419,847. Patented Jan. 21, 1890.

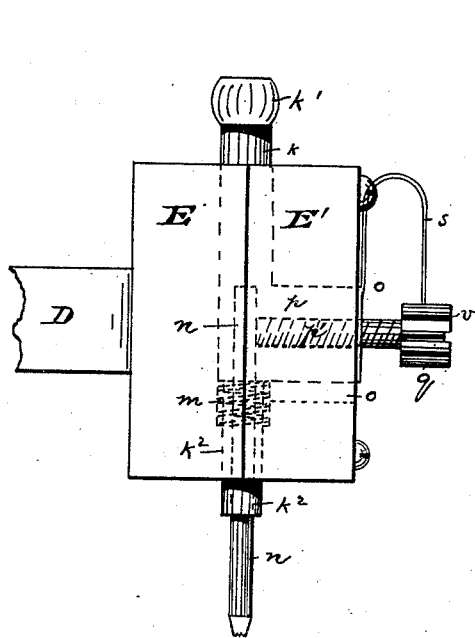


Fig. 4.

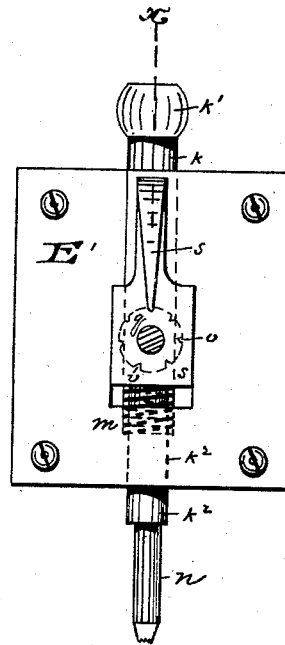


Fig. 5.

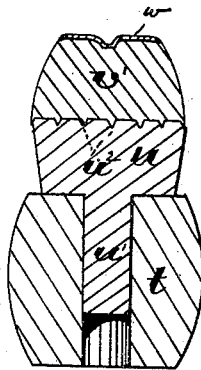


Fig. 7.

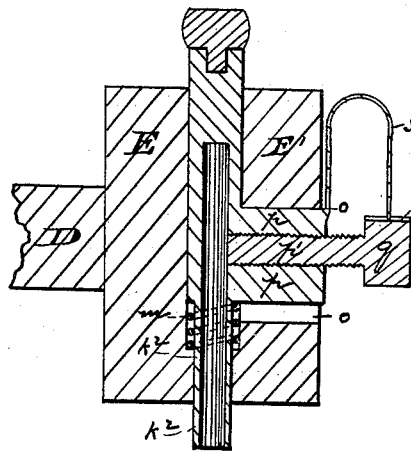


Fig. 6.



Fig. 9.

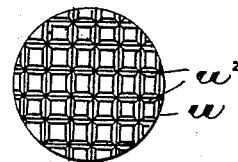


Fig. 8.

WITNESSES:

Alfred Gartner
E. L. Sherman

INVENTOR :

Emanuel Geisel,

BY *W. H. B. Co.* ATTY'S.

UNITED STATES PATENT OFFICE.

EMANUEL GEISEL, OF NEWARK, NEW JERSEY.

ORNAMENTING AND EMBOSSING MACHINE.

SPECIFICATION forming part of Letters Patent No. 419,847, dated January 21, 1890.

Application filed April 10, 1889. Serial No. 306,869. (No model.)

To all whom it may concern:

Be it known that I, EMANUEL GEISEL, a subject of the Emperor of Germany, residing at Newark, in the county of Essex and State of New Jersey, have invented certain new and useful Improvements in Embossing and Engraving Machines; 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, reference being had to the accompanying drawings, and to letters and figures of reference marked thereon, which form a part of this specification.

The object of this invention is the ornamenting of gold, silver, or other metallic plates by a machine, whereby it can be done much quicker and cheaper and more uniform than when done by hand.

The invention consists in the improved ornamenting and embossing machine and the combination and arrangement of parts thereof, as will be hereinafter more fully set forth, and finally embodied in the clauses of the claims.

Referring to the accompanying drawings, in which like letters and figures of reference indicate corresponding parts in each of the several figures, Figure 1 is a front view of an engraving or embossing machine embodying my improvements. Fig. 2 is a left end view of the same. Fig. 3 is a view of a portion of the right end, showing the arrangement of the belt-shipper. Fig. 4 is an enlarged side view of the tool-holder and a tool. Fig. 5 is a front view of the same. Fig. 6 is a section through line *y*, Fig. 2. Fig. 7 is a sectional view on line *y*, Fig. 2. Fig. 8 is a plan view of the upper part of the metal portion of the bed-plate, showing a roughened surface to hold the cement or elastic bed on which the plate to be ornamented or embossed rests, and Fig. 9 is a plan view of an ornamented or embossed plate.

In said drawings, A represents the bed of a machine, provided with upright standards B C, firmly secured thereto, and a curved forward-projecting standard or support D for a tool-holder E. To the standard C is firmly secured an outwardly-projecting support F. The top of the standards B and C are slotted to receive bearings *a a*, in which revolves a

main driving-shaft *b*. On this shaft are two driving-pulleys *c c*, one of said pulleys being rigidly secured to the shaft and the other adapted to revolve loosely on said shaft. On one end of the shaft *b* and outside of the standard is rigidly secured a wheel or disk *d*, concentric with the shaft and provided with openings *d'* at various places on its face to receive a pin or screw *e*. (Shown in Fig. 2.) The outer end of the arm or support F is slotted to receive a pin *f*, on which oscillates a bar *g*, provided at one end with an open slot *g'* and at the other end with an elongated slot *g''*, in which reciprocates the pin *e*. In the open slot *g'* is removably secured by a set-screw *g''* a spring-plate *h*, having on its outer end a hammer *i*, rigidly secured thereto or made integral therewith.

The tool-holder E is divided into two parts E and E', secured together, and is provided with a vertical cylindrical opening in which slides a bar *k*, provided at its top with a removable cap *k'* to receive the blow of the hammer *i*. This bar *k* is contracted at its lower portion, as shown at *k''*, forming a right-angled shoulder to rest upon an annular spring *m* in the bottom of the cylindrical opening in the tool-holder E, as shown in Figs. 4, 5, and 6. The bar *k* and contracted portion *k''* are provided with a vertical cylindrical slot to receive the shank of an embossing or ornamenting tool *n*. The front of the tool-holder is formed with an opening *o* to receive a block *p*, which is rigidly secured to the bar *k*, or made integral therewith, as preferred. Through this block *p* is a threaded opening, in which fits an adjusting-screw *p'*, provided with a circular head *q*. This head is provided on its outer periphery with grooves or notches *v* to receive the ends of a curved holding and binding spring *s*, secured to the portion E' of the tool-holder E, as shown in Figs. 4 and 5. A loose hand-guide piece *t*, of ordinary construction and arrangement, is shown in Figs. 2 and 7, provided with a cylindrical opening, in which rests the round depending portion *u'* of a bed *u*, corrugated or roughened on the surface, as shown at *u''*, to hold a cement or yielding material *v'*, upon which rests the metal plate to be embossed or ornamented.

To the rear of the standard B is firmly se-

cured a block 1, provided with a slot 2, in which slides a bar 3, having on its one end a projecting handle 4 for operating it.

To the inner end of the bar 3 are secured 5 upwardly-curved and over-extending bars 5 5, between which the driving-belt 6 passes. By moving the handle the belt is shifted from the loose pulley to the tight pulley, or vice versa, as will be clearly understood.

10 In operating my improved machine the metal plate to be embossed or ornamented is placed upon the top of the yielding piece *v'*. The machine is then set in motion by sliding the belt-shipper. The oscillating motion im- 15 parted to the arm or rod *g* causes the hammer to reciprocate, and in its downward motion strike upon the cap on top of the tool-holder, carrying the tool, thus causing the point or lower edge of the tool to impinge upon the metal 20 plate. The combined action of the spring-plate *h*, annular spring *m*, and the yielding construction *v'* prevents the point or end of the tool from being driven through the metal plate. By turning the hand portion *t* the 25 point of the tool can be presented to any portion of the surface of the metal plate desired. To change distance of the stroke of the hammer, the pin *e* is removed and inserted in such hole in the disk *d* as may be desired. The 30 hammer, with its spring-holder, is made removable from the bar *g*, so that hammers of varying weight and stiffness of spring can be employed. The belt-shipper having its arm curved over to project beyond both por- 35 tions of the belt serves also to keep the belt in position and prevent its running off the driving-pulleys.

Having thus described my invention, what I claim as new, and desire to secure by Let- 40 ters Patent, is—

1. In an ornamenting or embossing machine, a spring-hammer-driving mechanism consisting of a rod pivoted to the frame of the machine, and a spring-hammer removably

secured to one end of said rod, the other end 45 of said rod having an elongated slot to receive a pin adjustably secured to a disk or wheel on the main shaft, as described, and for the purposes set forth.

2. In an ornamenting or embossing ma- 50 chine, a tool-carrying mechanism consisting of the part *E*, secured to said machine, part *E'*, removably secured to said part *E*, tool-shaft *k k'*, spring *m*, removable cap *k'* to receive the blow of a hammer, and a central 55 slot in the lower portion of said tool-shaft to receive the engraving or embossing tool, all said parts being arranged as described, and for the purposes set forth.

3. In an ornamenting or embossing ma- 60 chine, a tool carrying mechanism consisting of the part *E*, secured to said machine, part *E'*, removably secured to said part *E*, tool-shaft *k k'*, spring *m*, removable cap *k'*, to secure the blow of a hammer, a central slot in 65 the lower portion of said tool-shaft to secure the tool-block *p*, secured to said tool-shaft, set-screw *p'*, slotted screw-head *q*, and curved spring *s*, connected at one end to the tool-holder and at the other end adapted to rest 70 in the grooves in said screw-head, all as described, and for the purposes set forth.

4. In an ornamenting or embossing machine, the combination, with the main driving-shaft, of a perforated disk rigidly se- 75 cured to said main shaft and an adjustable pin adapted to enter any one of said perforations and pivotally and directly connecting said disk with the slotted pivoted lever of the hammer-driving mechanism, as described, and 80 for the purposes set forth.

In testimony that I claim the foregoing I have hereunto set my hand this 9th day of March, 1889.

EMANUEL GEISEL.

Witnesses:

OLIVER DRAKE,
ALFRED GARTNER.