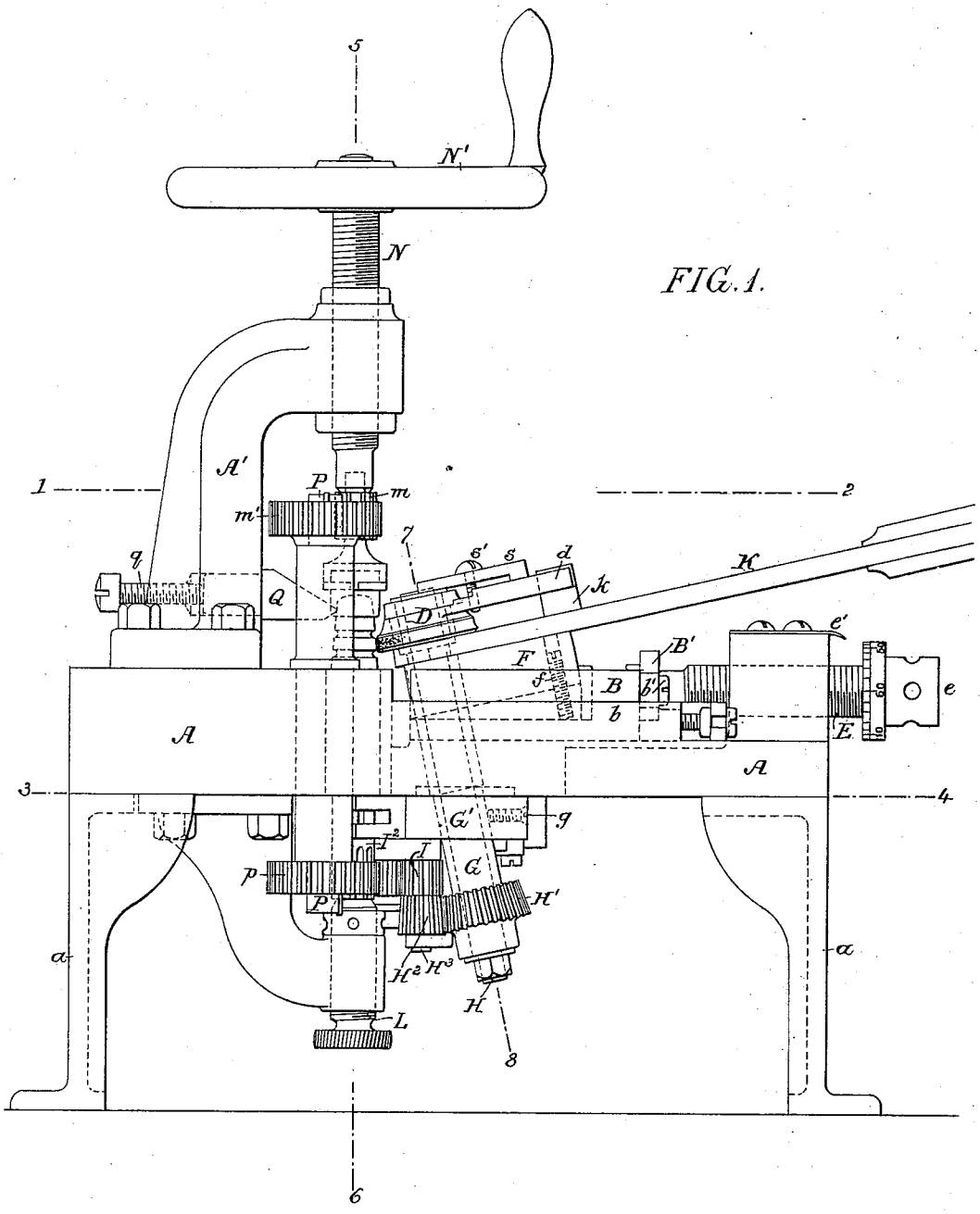
(No Model.) 3 Sheets—Sheet 1.

J. BROWNING.

THIMBLE EMBOSSING MACHINE.

No. 407,637. Patented July 23, 1889.

FIG. 1.



Witnesses:
Albert Popkins.
Jas. L. Skidmore.

Inventor:
Joseph Browning
by his Attorneys
Bowson & Bowson

N. PETERS, Photo-Lithographer, Washington, D. C.

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FIG. 2.

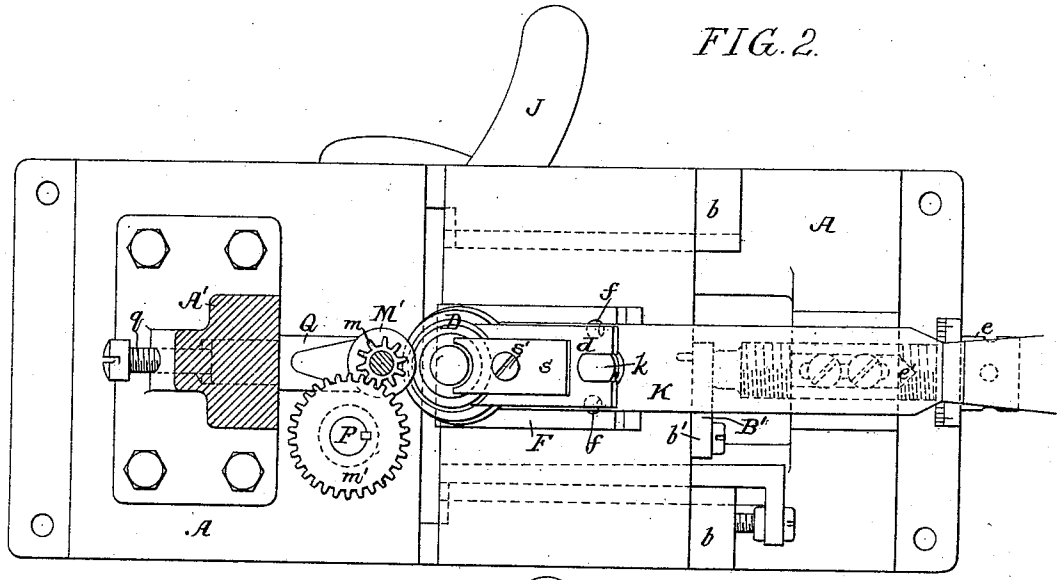


FIG. 3.

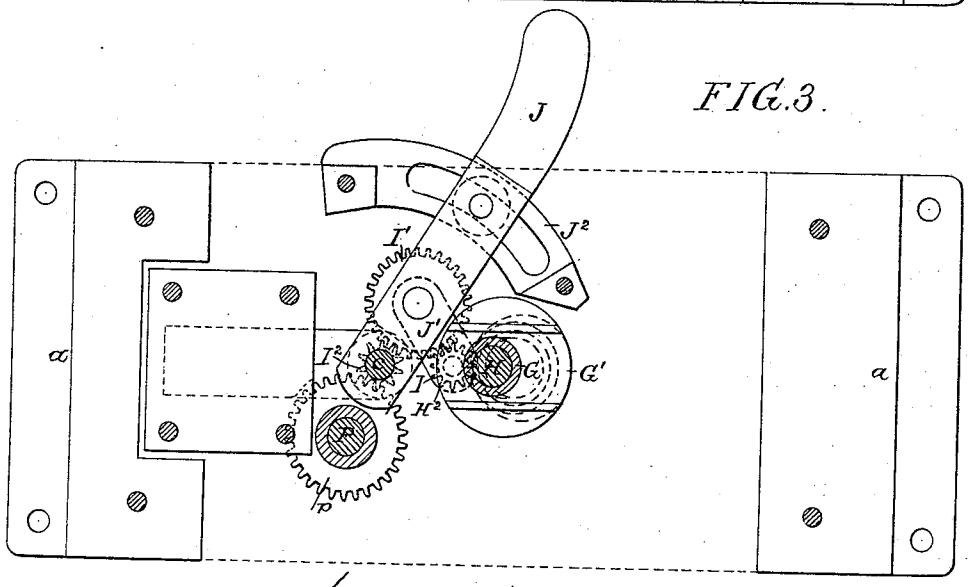


FIG. 6.

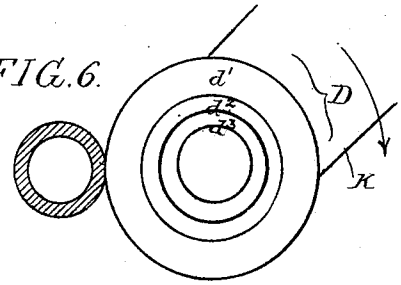
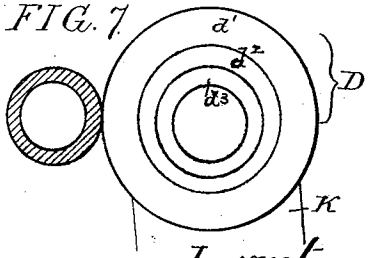


FIG. 7.



Witnesses:
Albert Popkins.
Jas. L. Skidmore.

Inventor:
Joseph Browning
by his attorneys
Howson & Howson

N. PETERS. Photo-Lithographer, Washington, D. C.

(No Model.) 3 Sheets—Sheet 3.

J. BROWNING.

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FIG. 8.

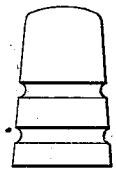


FIG. 9.



FIG. 4.

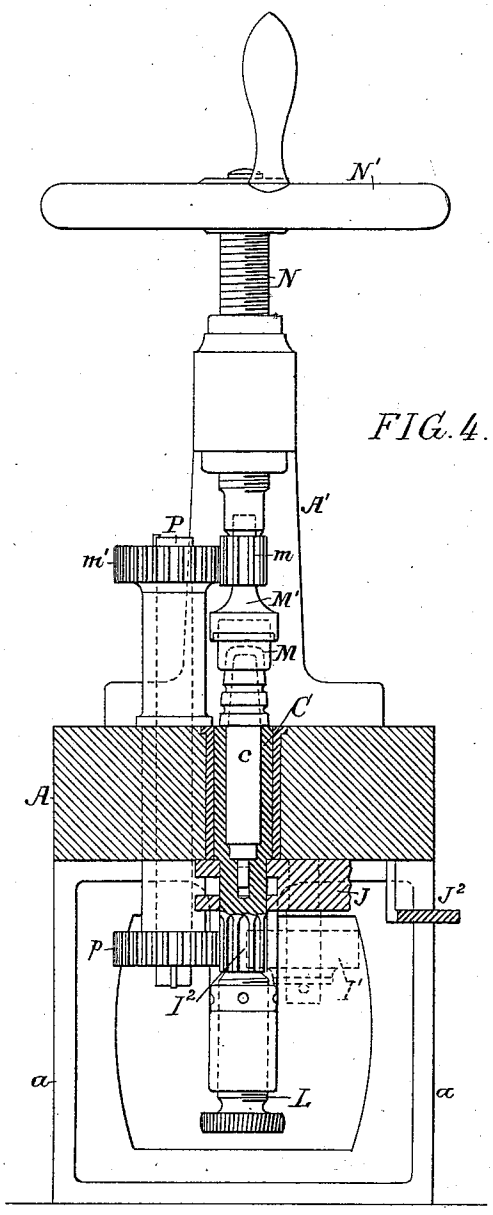
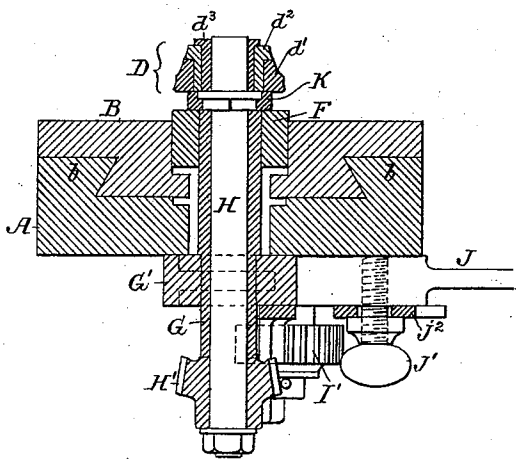


FIG. 5.



Witnesses:
Albert Popkins,
Jas. L. Skidmore

Inventor:
Joseph Browning
by his Attorneys
Howson & Howson

N. PETERS, Photo-Lithographer, Washington, D. C.

UNITED STATES PATENT OFFICE.

JOSEPH BROWNING, OF PHILADELPHIA, PENNSYLVANIA, ASSIGNOR TO JOHN F. SIMONS, FREDERICK M. SIMONS, AND EDWIN S. SIMONS, ALL OF SAME PLACE.

THIMBLE-EMBOSSING MACHINE.

SPECIFICATION forming part of Letters Patent No. 407,637, dated July 23, 1889.

Application filed May 14, 1889. Serial No. 310,720. (No model.)

To all whom it may concern:

Be it known that I, JOSEPH BROWNING, a citizen of the United States, and a resident of Philadelphia, Pennsylvania, have invented certain Improvements in Embossing-Machines, of which the following is a specification.

The object of my invention is to construct a machine for embossing the base portions of thimbles.

The machine is so constructed that the thimble is clutched to a revolving spindle, and an embossing-wheel is pressed against the surface of the thimble to be embossed; and the main object of my invention is to so construct the mechanism that the surplus material will be distributed on the thimble at a position previously determined by the cutting of the embossing-wheel.

In the accompanying drawings, Figure 1 is a side view of my improved embossing-machine. Fig. 2 is a sectional plan on the line 1 2, Fig. 1. Fig. 3 is a sectional plan on the line 3 4, Fig. 1. Fig. 4 is a vertical section on the line 5 6, Fig. 1. Fig. 5 is a vertical section on the line 7 8, Fig. 1. Figs. 6 and 7 are diagrams showing the different positions of the embossing-wheel in respect to the thimble. Fig. 8 is a view of the thimble before being embossed, and Fig. 9 is a view of the finished thimble.

A is the bed-plate of the machine, mounted on suitable legs *a a* and adapted to ways *b b*. On the bed is a slide B, carrying the embossing-roller D.

C is a vertical tubular shaft adapted to suitable bearings in the base A. This shaft carries the spindle *c*, on which the thimble to be embossed is placed. The slide can be moved toward or from the shaft C, in order that the embossing-wheel may be moved into or out of engagement with the thimble. The slide is adjustable toward the thimble by a set-screw E, having a head *e*, provided with a series of graduations, and a finger *e'* on the frame indicates the position of the graduations, so that if, for instance, the machine is to be set at 50, the screw can be turned until 50 comes directly opposite the finger *e'*, and so on.

To withdraw the slide from the thimble sufficiently to remove the same, I provide an arm B', pivoted at *b'* to the slide. This arm passes between the end of the set-screw *e* and the slide, and the set-screw bears against this arm, so that when it is desired to move the slide back without altering the adjustment of the set-screw the arm is raised clear of the set-screw and the slide pushed back. When the thimble is removed and another placed in position, the slide is moved up in contact with the thimble and the arm placed, as before, between the slide and set-screw.

Carried on the slide B is a block F, one end of which can be raised or lowered by means of set-screws *f*, when it becomes necessary to adjust the embossing-wheel to different angles in respect to a vertical line through the thimble. The set-screws bear against the bottom of an opening in the slide B, and by turning the screws the block can be raised or lowered; but usually the block and slide are made in one piece.

Passing through the block and through an opening in the slide B, as well as in the base A, is a sleeve G, as shown in Fig. 5. This sleeve is secured to the block F, and is also secured to a ring G' on the under side of the bed-plate by means of a set-screw *g*. This block and ring tend to steady the sleeve. The sleeve may be an extension of the slide B, in which case the block and ring are dispensed with. Passing through the sleeve is a shaft H, carrying at its upper end the embossing-wheel D, and at its lower end a bevel-wheel H', preferably keyed to it.

The details of construction of the embossing-wheel will be described hereinafter.

The bevel-wheel H' meshes with a bevel-pinion H^2, mounted on a vertical stud H^3, secured to the block G'. Above the pinion H^2, and secured thereto, is a second pinion I, which meshes with an intermediate wheel I', mounted on a lever J, pivoted at *j* to the hollow shaft C, as shown in Fig. 4, and also connected to a stud H^3 through the medium of a

link J′. The lever can be adjusted on a segment J^2, so as to accommodate the different positions of the block B, as it will be understood that if the block is moved back or away from the thimble the lever must also be moved back so as to keep the wheel I′ in gear with both pinions I and I^2 at all times.

The pinion I^2 is keyed to the lower portion of the hollow shaft C, and, as described, meshes with the wheel I′ on the lever J. The mechanism is so timed that on the turning of the shaft H by the handle K the shaft C will turn at a proportionate speed, so that the periphery of the thimble carried by the shaft will travel at the same speed that the periphery of the wheel will travel. The lower portion of the shaft C rests on a set-screw L, on turning which the shaft can be raised or lowered.

In order to effect the accurate turning of the thimble, I place a clamp M over the head of the thimble, said clamp being connected to a spindle M′, carrying a pinion *m*. The spindle M′ passes up into an orifice in the end of a set-screw N, having a hand-wheel N′, on turning which the spindle can be forced downward and the clamp pressed hard onto the thimble-blank.

When it is desired to release the thimble, the hand-wheel N′ is turned in the opposite direction and the thimble released, after which it can be removed and another thimble placed in position.

The clamp is removable from the spindle M′, so that the thimble can be readily removed from its spindle *c*. The pinion *m* on the spindle M′ gears with a wheel *m′* on a vertical shaft P, adapted to bearings in the frame. On the lower portion of the shaft P is a wheel *p*, which gears with the pinion I^2 on the hollow shaft C, so that both spindles *c* and M′ are geared together and will turn at a uniform speed, and consequently the thimble-blank to be embossed will turn therewith, thus insuring accurate embossing.

I place back of the thimble a block Q, which is recessed on its end to fit around the clamp M. This block can be adjusted toward and from the clamp by means of a set-screw *q*, passing through a standard A′, which carries the set-screw N. The object of this block is to take the thrust of the embossing-tool upon the thimble.

The lever J is adjustable in guides on a segment J^2 and can be set in different positions.

The handled lever K for turning the embossing-wheel is pivoted to the shaft H and has a lug *k*, which rests in a slot in an arm *d* of the embossing-wheel, so that on turning the lever K the embossing-wheel will likewise be turned.

The embossing-wheel is made up of three rings *d′*, d^2, and d^3. The ring d^3 is mounted on the shaft H, and its outer surface is eccentric in respect to its inner surface. The ring d^2 fits snugly to the ring d^3, and its outer surface is eccentric in respect to its inner surface, and the embossing-ring *d′* fits snugly over the ring d^2, but its inner and outer surfaces are concentric, so that between the shaft H and the embossing-ring *d′* there are two eccentrics.

The object of having the two eccentrics is to so adjust the ring that a given point on its periphery can be adjusted to act on the thimble-blank at a certain time, as in rolling the impression of the embossing-wheel on the thimble a portion of the metal will be carried in advance of the wheel, and if this is not passed over and taken up an unsightly lump is produced, which would condemn the thimble and render it unsalable; but by adjusting the two eccentrics the wheel will gradually back off from the thimble, thus passing over the material that would otherwise be carried in advance of the wheel and return to the starting-point, as shown in the view, Figs. 6 and 7, producing a perfectly-formed thimble, requiring no further finishing.

In order to secure the rings *d′*, d^2, and d^3 together, I provide a clamp *s*, which bears against the arm *d* on one end, and bears against the ring d^3 at the opposite end, and a screw *s′* secures the clamp *s* firmly in position, as shown in Figs. 1 and 2.

I do not limit myself to embossing thimbles, as it will be understood that other articles may be embossed on this machine with a slight modification of the parts.

I claim as my invention—

1. The combination, in an embossing-machine, of the thimble-carrying spindle, the embossing-wheel having a concentric ring on which the figure is cut, and two eccentric rings, one inside the other, by which the position of the embossing-ring is varied, substantially as described.

2. The combination, in an embossing-machine, of the vertical shaft, in which is mounted the thimble-carrying spindle, with a shaft carrying an embossing-wheel, and a handle therefor, said shaft being geared to the thimble-shaft, substantially as and for the purpose described.

3. The combination, in an embossing-machine, of the plate A, bearings therein, a thimble-shaft mounted in said bed-plate, with a slide B, carrying the embossing-tool, and a set-screw E for adjusting the slide B toward or from the thimble, with an arm B′, carried by the slide and adapted to pass between the end of the set-screw and the slide, substantially as described.

4. The combination of the bed-plate A, the vertical thimble-carrying shaft C, with a slide B, adapted to ways on said frame, and a block in said slide carrying the embossing-tool, with mechanism for raising and lowering said block, by which the angle of the tool is varied, substantially as described.

5. The combination, in an embossing-machine, of the embossing-tool, a vertical thimble-carrying shaft having a pinion at its lower end, with a second shaft having a gear-

wheel meshing with said pinion, and having at its upper end a second wheel meshing with a pinion on a spindle carrying the clamp for the head of the thimble, with mechanism for turning the shaft, so that when the shaft C turns the clamp for the head of the thimble will likewise be turned, substantially as specified.

6. The combination, in a thimble-embossing machine, of the thimble-carrying shaft and a clamp for the upper portion of the thimble, with the embossing-tool and a block Q, adapted to take the strain of the embossing-tool, substantially as described.

7. The combination, in an embossing-machine, of the bed-plate A, the slide B, a sleeve G, carried by said slide, with a shaft H, adapted to said sleeve and carrying at its upper end the embossing-tool and handle, and having at its lower end a bevel-wheel meshing with a bevel-pinion which is geared to the thimble-carrying shaft, substantially as described.

8. The combination of the embossing-ring d', having an arm d, with the rings d^2 and d^3, a clamp s, and a set-screw s', by which the rings d^2 and d^3 are clamped to the ring d', substantially as described.

9. The combination, in an embossing-machine, of the embossing-wheel, its shaft and gear-wheel, with a thimble-carrying shaft, its pinion, an intermediate pinion, and intermediate wheel, said wheel being carried by a lever pivoted to the thimble-carrying shaft, but connected to the intermediate pinion, so that on the movement of the embossing-wheel toward or from the thimble the lever J will be moved, substantially as described.

10. The combination, in a thimble-embossing machine, of the hollow shaft C and spindle c therein, carrying the thimble to be embossed, with a clamp M, detachable from the spindle M', so that the thimble and clamp can be detached from the spindles, substantially as described.

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

JOSEPH BROWNING.

Witnesses:
HENRY HOWSON,
HARRY SMITH.