(No Model.) 3 Sheets—Sheet 1.

# H. P. KENT.

## ENGRAVING AND CHASING MACHINE.

No. 305,605. Patented Sept. 23, 1884.

Fig. 1.

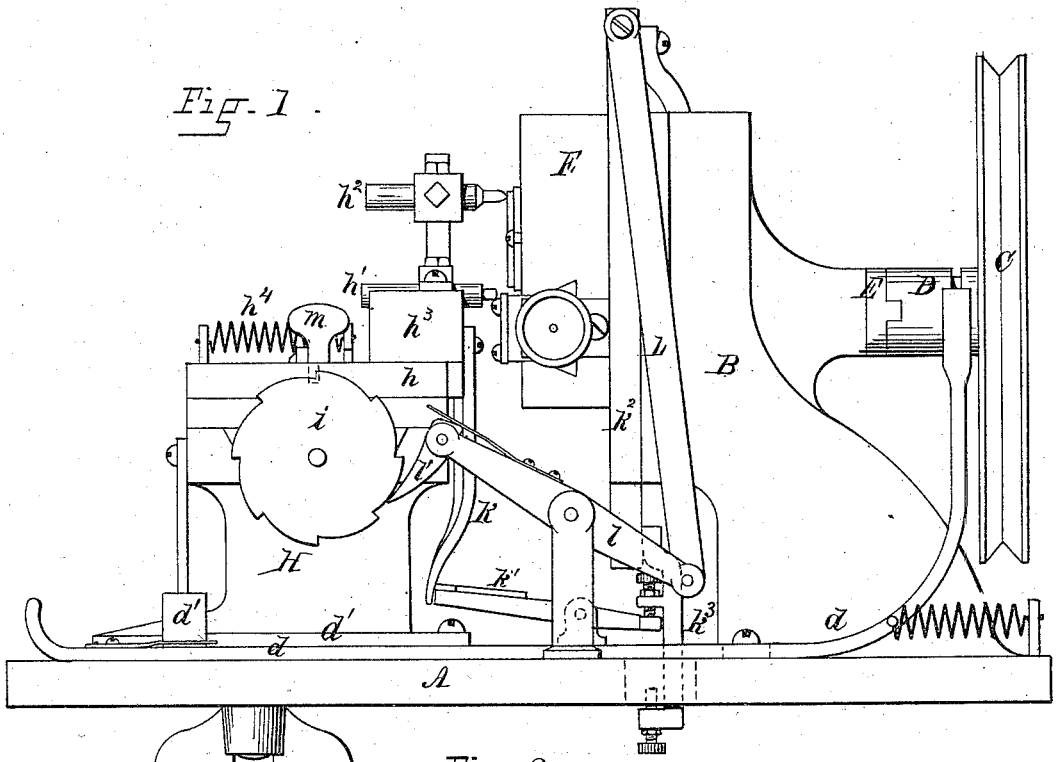
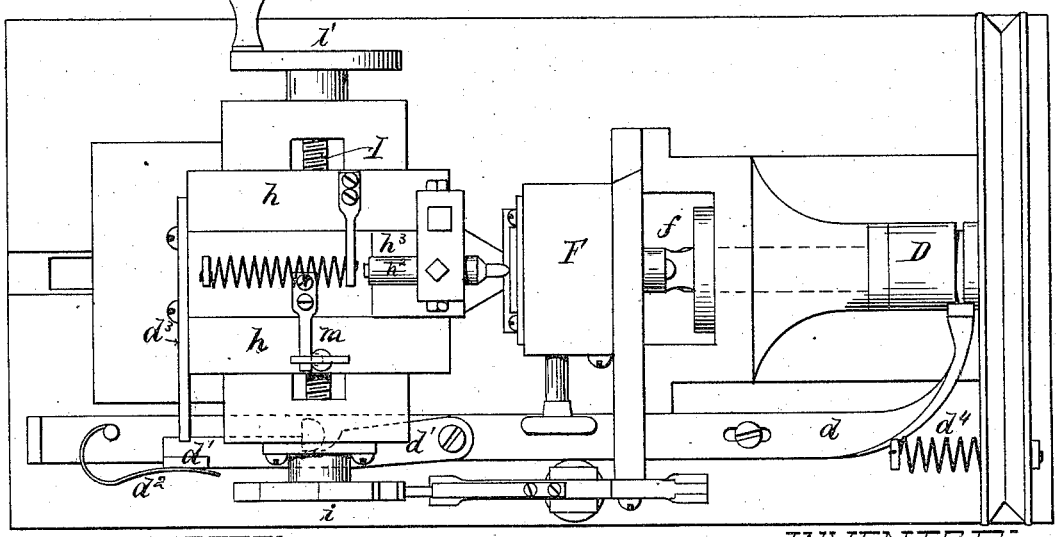



Fig. 2.




WITNESSES:

J. L. Bond

Wm. L. Ast

INVENTOR:

Hezekiah P. Kent

by Joseph A. Miller & Co

Attys.

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# H. P. KENT.

## ENGRAVING AND CHASING MACHINE.

No. 305,605. Patented Sept. 23, 1884.

Fig. 3.

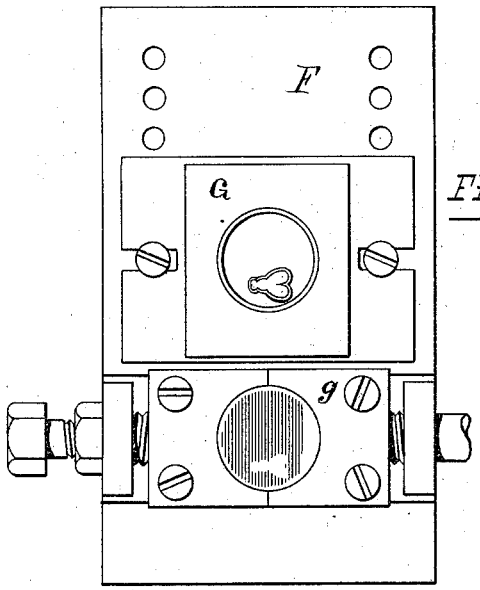



Fig. 4.

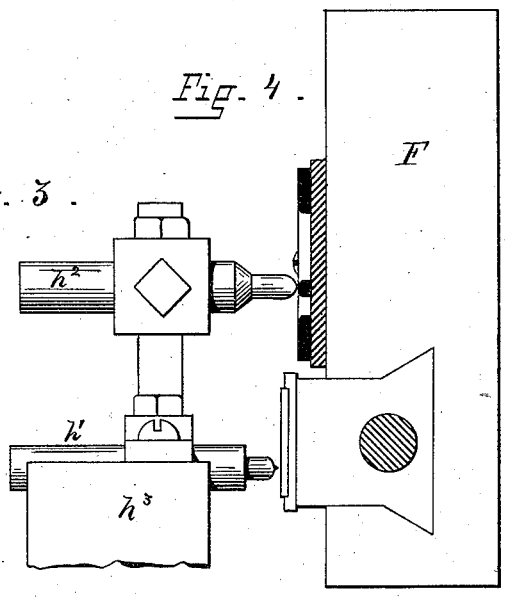



Fig. 5.

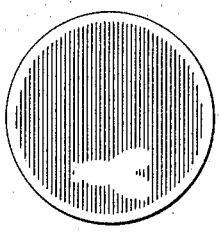
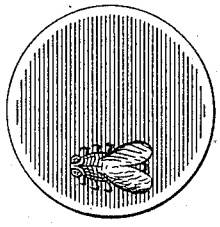


Fig. 6.



WITNESSES:

H. Bowman

Wm. L. Coyl

INVENTOR:

Hexham P. Kent

by Joseph A. Miller & Co

Attys

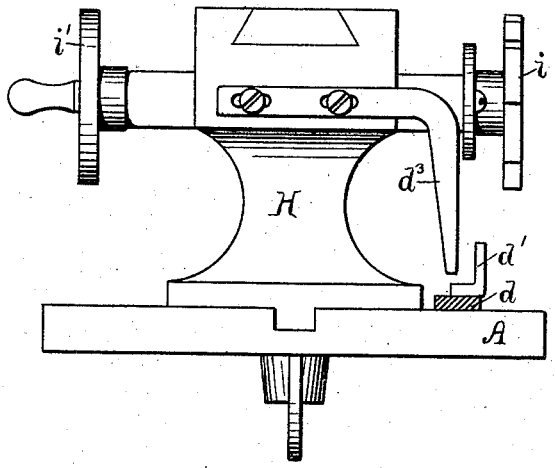
(No Model.) 3 Sheets—Sheet 3.

# H. P. KENT.

## ENGRAVING AND CHASING MACHINE.

No. 305,605. Patented Sept. 23, 1884.

Fig. 7.




WITNESSES:
C. H. Luther Jr
Jno. L. Condon.

INVENTOR:
Huxham P. Kent
by Joseph A. Miller & Co
Attys

# UNITED STATES PATENT OFFICE.

HUXHUM P. KENT, OF PROVIDENCE, RHODE ISLAND.

## ENGRAVING AND CHASING MACHINE.

SPECIFICATION forming part of Letters Patent No. 305,605, dated September 23, 1884.

Application filed May 14, 1883. (No model.)

*To all whom it may concern:*

Be it known that I, HUXHUM P. KENT, of the city and county of Providence, State of Rhode Island, have invented a new and useful Improvement in Engraving and Chasing Machines; and I hereby declare the following to be a full, clear, and exact description of the same, reference being had to the accompanying drawings, forming part of this specification.

This invention has reference to an improvement in machines for cutting or chasing parallel lines or grooves on jewelry, so as to form the groundwork for other ornamentations; and it consists in the new and peculiar mechanism by which the machine is made to operate automatically, as will be more fully set forth hereinafter.

Figure 1 is a side view of the machine. Fig. 2 is a top view of the same. Fig. 3 is an enlarged face view of the slide, showing the pattern and the plate to be engraved secured thereto. Fig. 4 is an enlarged view of the rest in which the cutter and the guide are secured, and the reciprocating slide in which the work and pattern are secured. Fig. 5 is a view of a blank engraved on this machine, and Fig. 6 is a view of the finished blank. Fig. 7 is an end view of the machine.

In the drawings, A is the bed-plate; B, the standard in which the driving-shaft is supported.

C is the band-wheel by which the machine is driven.

D is a clutch by which the band-wheel is connected with the driving-head E, which is secured to the driving-shaft, and by which the band-wheel can be disconnected therefrom.

F is a reciprocating slide, working in vertical ways, and connected with the driving-shaft by the crank *f*. On the face of this slide F is secured the pattern G, on which the space or spaces to be lined or engraved are recessed, and all spaces to be left blank are raised on a line with the outer surface of the pattern. The plate to be engraved is secured in the adjustable jaws *g'*.

H is a standard on which the rest *h* is supported in proper ways, and on the same the graver *h'* and the guide-finger $h^2$ are adjustably secured in the tool-stock $h^3$. The rest *h* is connected with the horizontal screw I, having on one end the ratchet-wheel *i*, and on the other end the crank *i'*. The tool-stock $h^3$ is pressed so that the guide-finger $h^2$ will bear against the pattern G by the spring $h^4$. On the front of the tool-stock $h^3$ the arm K is secured, which extends downward, ending in a curve.

*k'* is a hinged stop, which, when in front of the arm K, keeps the graver from contact with the plate to be engraved.

$k^2$ is an arm extending down from the reciprocating slide F, the lower end of which is provided with the bent arm $k^3$, provided with two adjustable screw-bolts.

The operation of this part of the machine is as follows: When the slide F, carrying the pattern and the plate to be engraved, reaches the lower end of its traverse, the guide-finger $h^2$ is bearing on the outer surface of the pattern, and the graver is off from the plate to be engraved. At this time the upper screw of the arm $k^3$ comes in contact with the hinged stop *k'* and raises the other end of the stop in front of the arm K, thus holding the tool-stock back and allowing the slide F to rise, with the graver kept off from the plate. When the slide F has nearly reached the upper end of its traverse, the lower screw of the arm $k^3$ comes in contact with the hinged stop *k'* and releases the arm, so that now the graver is controlled by the guide-finger $h^2$, thus permitting the graver to cut the lines only in one direction and free to be moved laterally the space of one line. This lateral motion is performed by the ratchet-and-pawl device shown in Figs. 1 and 2, in which L is a connecting-rod hinged to the slide F and the hinged lever *l*, the other end being provided with the spring-pressed pawl *l'*, engaging with the ratchet-wheel *i*, secured to the screw I, which is secured in a nut in the slide *h*, carrying the tool-stock. At each reciprocation of the slide F the pawl-and-ratchet device partially turns the screw I and moves the slide and tool-rest the space of one line. The graver can be held permanently off from the work by turning the eccentric turn-button, which bears against a projecting arm secured to the tool-stock $h^3$.

When the machine is started, it will continue to engrave until it is stopped, and to do this automatically the shipper *d* is connected with the clutch D by entering the groove on the same. This shipper is provided with the

latch $d'$, held on a fixed stop secured upon the frame, and shown in dotted lines in Fig. 1, by means of the spring $d^2$, thus holding the clutch in contact with the driving-head. To the slide $h$ the rod $d^3$ is secured, which, when the slide has moved the required width of the plate to be engraved, comes in contact with the latch $d'$ and disengages the same. The spring $d^4$ now draws the shipper $d$, and with it the clutch D, backward, disengaging the driving or band wheel C from the driving-head E and stopping the machine. An alarm may be secured to the shipper to notify the operative that the plate is completed.

The operation of the machine is as follows: The proper pattern and plate to be engraved being secured to the reciprocating slide F, the guide-finger $h^2$ and graver $h'$ are adjusted in the tool-stock $h^3$. The slide $h$ is now turned back to the left-hand edge of the pattern by the crank $i'$. The shipper is now drawn forward to connect the clutch, the slide F now descends, the graver, guided by the guide-finger and pattern, cuts one line. When at the end of the downward stroke, the hinged stop $k'$ is brought in front of the arm K, holding the graver off from the work. The slide now raises the ratchet device, turns the screw I, and moves the guide-finger and graver the distance of one line to the right, the arm K is released, and the graver cuts another line at the next descent of the slide F, until the whole width of the plate is engraved, when the rod $d^3$ disengages the shipper-rod $d$, and the same releases the clutch D, thus stopping the machine. By thus operating the machine, feeding, starting, and stopping the same automatically one person can attend a number of machines and a large amount of engraving can be produced.

I am aware that machines have before my invention been used to engrave by line-engraving, having a graver controlled by a guide passing over a pattern; but such machines were not continuous or automatic in their operation.

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

1. The combination, with the reciprocating slide constructed to carry the pattern and the plate to be engraved, and the tool-stock in which the graver and guide-finger are secured, of the ratchet-wheel $i$, the pawl $l'$, lever $l$, and connecting-rod L, constructed to automatically move the tool-stock, as described.

2. The combination, with the slide $h$ and the driving-shaft of an engraving-machine, of the clutch D, the shipper $d$, the latch $d'$, and rod $d^3$, constructed to disengage the clutch automatically, as described.

3. The combination, with the base carrying the standards B and H, and the latch $d'$, having the spring $d^2$, of the driving-head E, carrying the band-wheel C and the clutch D, the adjustable jaws $g'$, the rest $h$, carrying the tool-stock $h^3$, having the graver and guide, the shipper $d$, the screw I, carrying the ratchet-wheel and crank, the pawl $l'$, connecting-rod L, and lever $l$, and the arm K, the hinged stop $k'$, and arms $k^2$ $k^3$, all constructed and arranged to operate substantially as set forth.

In witness whereof I have hereunto set my hand.

HUXHUM P. KENT.

Witnesses:
M. F. BLIGH,
J. A. MILLER, Jr.