

# INTRODUCTION TO GRAPHICS

## The Gravure Printing Process

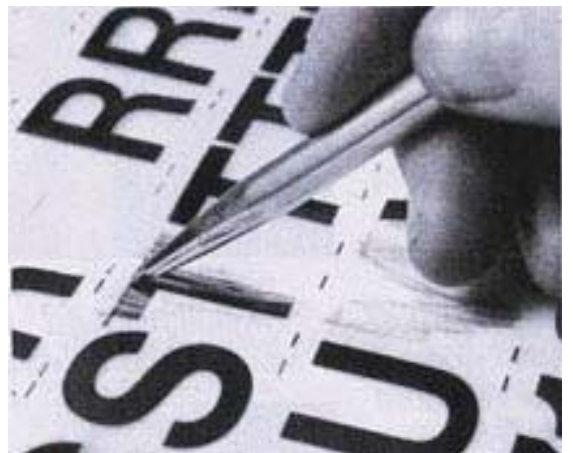
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Gravure is an Intaglio class printing process requiring a multi-step procedure using a number of machines and professional people. Each of the steps in the Gravure printing process is explained here from the beginning of the process to a finished stamp product. A simple picture of each step is shown adjacent to the explanations. In the various intaglio printing methods, the area of the image to be printed is always recessed into the surface of the printing plate and these areas are filled with ink and the excess ink wiped from the plates using a device called a doctor blade.

Incising may be manually etched, engraved with chemicals or laser cutting machines. Another intaglio process (engraving) is used for printing U.S. paper currency and for other fine art printmaking. In all intaglio processes, to transfer the image to a substrate, heavy pressure is applied, leaving the surface slightly raised and the back side slightly indented.



**Step 1** - develop an image of the stamp using either an artist or photographer.



**Step 2** - overlay text using the Letraset process which is created on transparent film.

**Step 3 & 4** - combines the text overlay created in step 2 and the image created in step 1. The text overlay is placed over the artwork to indicate to the printer the position of the text and stamp frame in relation to the artwork.



**Step 5** - present the text overlay and stamp image created in the previous steps to the printer for review.



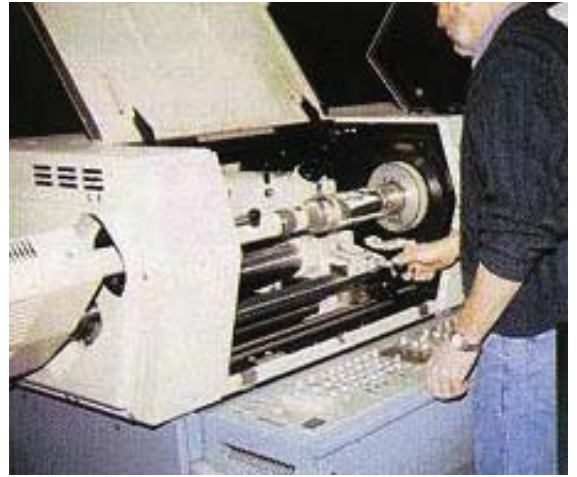
**Step 6** - setup the artwork on a copyboard so it can be photographed or on a scanner to create a digital image.



**Step 7** - If using film, focus the lens on the artwork and then photograph the it. This will combine the stamp image with the text



**Step 8** - use a scanner to separate the colors of the photographed combined image.



**Step 9** - when the stamp is ready for printing, it goes through the step-and-repeat machine which multiplies the single stamp image many times to make up a stamp sheet. The step-and-repeat distance (pitch) has been previously punched onto a tape.



**Step 10** - The tape created in step 9 is inserted into the step-and-repeat machine. Once inside the machine, the tape tells the machine how far apart to position the stamps on the film.



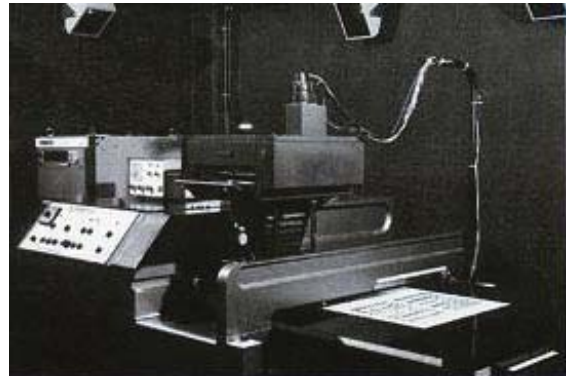
**Step 11** - the stamp sheet film is now placed in a holding frame. The stamp design was enlarged to 250% in step 10



**Step 12** - the holding frame is inserted into step-and-repeat machine.



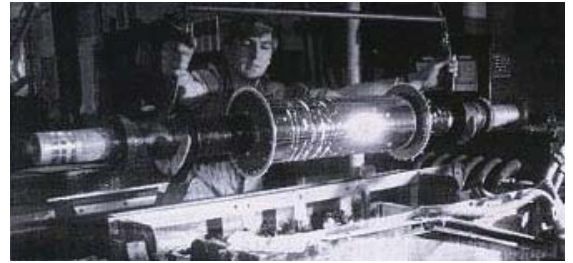
**Step 13** - The lens in the step-and-repeat machine reduces the image on the film to final stamp size, and "steps and repeats" it onto the film.



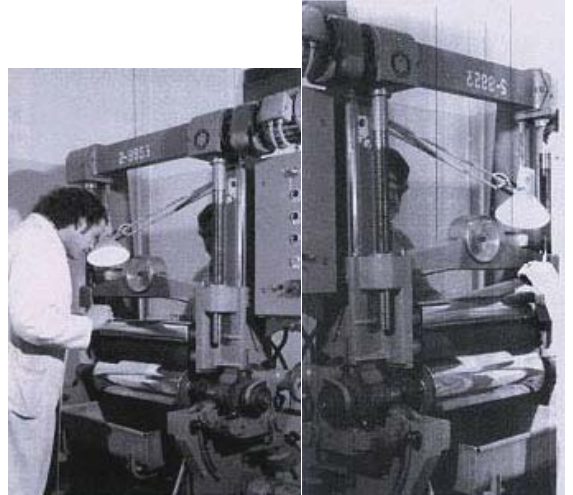
**Step 14** - The film is retouched to remove all marks that do not form part of the stamp design.



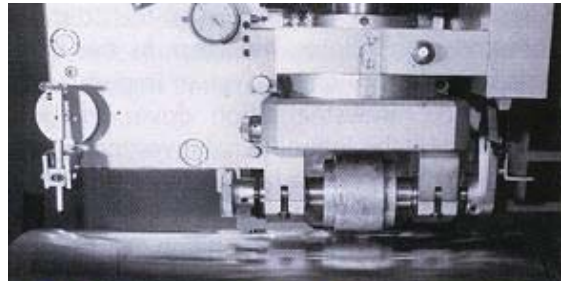
**Step 15** - A copper cylinder is prepared for image transfer.



**Step 16** - the image is transferred from the film to the copper cylinder.



**Step 17** - the image is etched by the etching machine.



**Step 18** - the completed etched image on the cylinder surface.



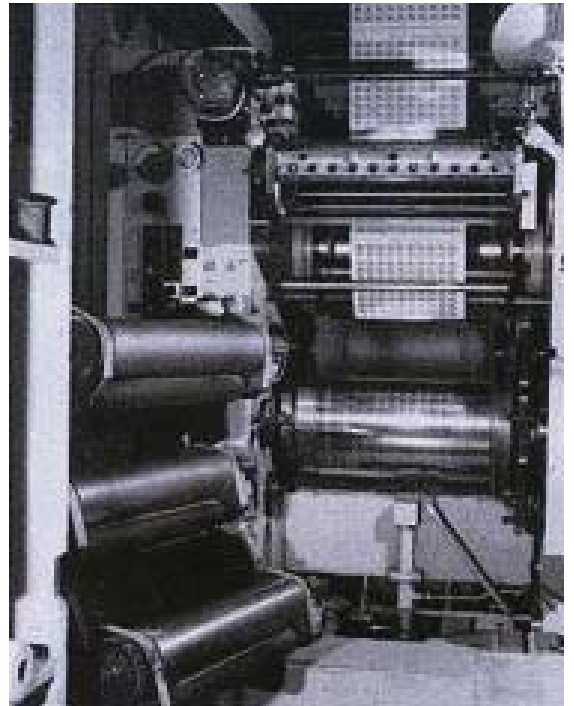
**Step 19** - checking the etched cylinder for defects prior to printing.



**Step 20** - The etched cylinder is chroms plated to prevent damage to the surface of the copper cylinder during printing. The cylinder is then placed on the printing press, and printing can start.



**STEP 21** - Printing on the gravure printing press in progress.



**Step 22** - when the stamps have been printed, they are processed through a perforator to enable individual stamp separation.



**Step 23** - The printed stamp sheets are cut to size with a guillotine cutter. They are now ready to be delivered to Post Offices for distribution.

